IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

VOIP-PAL.COM, INC. Plaintiff, v. APPLE, INC., Defendant.	CIVIL ACTION NO. 20-cv-275 JURY TRIAL DEMANDED

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff VoIP-Pal.com, Inc. ("VoIP-Pal"), for its Complaint against Defendant Apple, Inc. ("Apple"), alleges as follows:

THE PARTIES

1. Plaintiff VoIP-Pal.com, Inc. ("VoIP-Pal") is a Nevada corporation with its principal place of business located at 10900 NE 4th Street, Suite 2300, Bellevue, Washington 98004.

2. On information and belief, Defendant Apple, Inc. ("Apple") is a California corporation with physical addresses in this District at 12545 Riata Vista Circle, Austin, Texas 78727; 12801 Delcour Drive, Austin, Texas 78727; and 3121 Palm 4 Way, Austin, Texas 78758. Apple may be served with process through its registered agent, the CT Corp System, at 1999 Bryan St., Ste. 900 Dallas, Texas 75201-3136. Apple is registered to do business in the State of Texas and has been since at least May 16, 1980.

3. On information and belief, Apple regularly conducts and transacts business in the State of Texas, throughout the United States, and within this District, and as set forth below, has

committed and continues to commit, tortious acts of infringement within and outside the State of Texas and within this District.

JURISDICTION AND VENUE

4. This action is a civil action for patent infringement arising under the patent laws of the United States, Title 35, United States Code ("U.S.C.") §1 et seq., including 35 U.S.C. §§ 271 and 281-285. This Court has exclusive subject matter jurisdiction over this case for patent infringement under 28 U.S.C. §§ 1331 and 1338.

5. This Court has personal jurisdiction over Apple by virtue of its systematic and continuous contacts with this jurisdiction, as alleged herein, as well as because the injury to VoIP-Pal occurred in the State of Texas and the claim for relief possessed by VoIP-Pal against Apple for that injury arose in the State of Texas. On information and belief, Apple has purposely availed itself of the privileges of conducting business within the State of Texas, such business including but not limited to: (i) at least a portion of the infringements alleged herein; (ii) purposefully and voluntarily placing one or more infringing products into the stream of commerce with the expectation that they will be purchased by consumers in this forum; or (iii) regularly transacting or soliciting business, engaging in other persistent courses of conduct, or deriving or attempting to derive substantial revenue and financial benefits from goods and services provided to individuals residing in the State of Texas and in this District. Thus, Apple is subject to this Court's specific and general personal jurisdiction under due process and the Texas Long Arm Statute.

6. Personal jurisdiction also exists specifically over Apple because Apple, directly or through subsidiaries or intermediaries (including customers, distributors, retailers, and others), subsidiaries, alter egos, and/or agents – ships, distributes, offers for sale, licenses, sells, imports,

advertises, or markets in the State of Texas and in this District, one or more products that infringe the patent-in-suit, as described particularly below. Apple has purposefully and voluntarily placed one or more of its infringing products, as described below, into the stream of commerce with the awareness and/or intent that these products will be purchased by consumers in this District. Apple has knowingly and purposefully shipped infringing products into and within this District through an established distribution channel. These infringing products have been and continue to be purchased by consumers in this District.

7. VoIP-Pal's claim for relief for patent infringement arises directly from the activities of Apple in this District.

8. On information and belief, Apple, directly and/or through its customers has transacted business in this District and has committed acts of patent infringement in this District. By virtue of its offices in this District, Apple has a regular and established place of business in this District. Thus, venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b).

BACKGROUND OF THE TECHNOLOGY AND THE PATENT-IN-SUIT

9. United States Patent No. 10,218,606 (the "'606 patent") entitled "Producing Routing Messages For Voice Over IP Communications" was duly and legally issued by the United States Patent and Trademark Office on February 26, 2019. A copy of the '606 patent is attached hereto as Exhibit 1.

10. The '606 patent is referred to in this Complaint as the "Patent-in-Suit".

11. The inventions of the Patent-in-Suit originated from breakthrough work and development in the internet protocol communications field.

12. VoIP-Pal has provided significant improvements to communications technology by the invention of novel methods, processes and apparatuses that facilitate communications across and between internet protocol based communication systems and networks, such as internally controlled systems and external networks (e.g., across private networks and between private networks and public networks), including the classification and routing thereof.

13. The earliest telephone systems to receive public use within the United States involved a telephone directly connected to a human operator. A portion of the phone rested on a mechanical hook such that the operator was signaled when the portion was lifted from the hook. A caller would then say the name of the person they wished to call to the operator. If the callee was connected to the same telephone switch board the operator would physically pull out a cable associated with the caller's phone and plug the cable into a socket associated with the callee's telephone. If the callee was associated with a different switchboard, and thus out of reach of the operator, a second operator would be involved to bridge the gap to the appropriate switchboard. While initially very effective compared to no telephone service, this structure quickly proved error prone (operators would connect the wrong party) and limiting to the number of possible telephones because of the physical limits of switchboards and cable to be pulled. This basic system corresponds to the introduction of a Plain Old Telephone Service ("POTS") connection to the operator. In these configurations, there was a dedicated, point-to-point electrical connection between the caller and the callee.

14. Rotary dialing eventually was introduced, beginning at around the turn of the 20th century, where a rotary disk was marked with numbers from zero to nine. A caller would spin the wheel and a mechanical device in the telephone would cause a sequence of electrical pulses to be sent to the network corresponding to the digit dialed, for example, four pulses would be sent for

the number four. Rather than speaking to a human operator, an electric device would count the pulses and begin to route a call once an appropriate and valid sequence of digits was dialed by the caller. This advancement improved reliability of call routing and reduced the time required to initiate a call. But, even so, there was a dedicated, point-to-point electrical connection between the caller and the callee. As multiple companies entered the market of telephone service and the number of customers increased, an issue emerged where a caller would be a customer of one telephone company and the callee would be a customer of another. The solution that emerged to this problem was to introduce trunk lines connecting one company to another.

15. Eventually, as the number of companies continued to increase and telephone services spread over much larger geographic areas, the notion of a Public Switched Telephone Service ("PSTN") emerged. The term derives from the notion, at least in part, that the dedicated wires used to connect the caller and callee were "circuit-switched" to connect the two parties. The PSTN developed gradually into the middle of the 20th century, still built around the notion of rotary dialing and POTS connections to the individual telephones. These calls involved analog communications over circuit-switched electrical connections. A circuit-switched network involves assigning dedicated resources, such as switch settings and specific wires, to establish a link from the caller to the callee. While the call is ongoing, these resources cannot be used for any other communications.

16. The next important advancement for consumer telephone service, introduced broadly during the second half of the 20th century, was the introduction of push-button telephones. With such telephones the rotary dial was replaced by a matrix of buttons, each labeled with a digit from zero through nine along with the additions of '*' and '#'. The underlying signaling technology was called dual-tone multiple-frequency ("DTMF") and

involves two different audible tones being sent simultaneously from the telephone into the telephone network. A receiver within the network decoded these tones and formed them into a sequence of digits indicating the number of the callee.

17. Around this same time a scheme for international telephone addressing was introduced, with a numeric protocol for identifying one country from another and providing country-specific routing within the destination country. The E.164 standard now documents how a caller anywhere in the world, for example, in Ann Arbor, Michigan, can identify a telephone number at any other location, such as Avignon, France. While many of these advances, such as DTMF dialing and automated international routing, may have been originally introduced via *ad hoc* methods, eventually they required multiple parties (companies and governments) to agree on protocols to enable wide-spread reliable use and inter-operability among different telephone communications networks. Even with all these advances, the systems still relied on circuit-switched technology that dedicated resources between the caller and the callee for the duration of a call. The move to take human operators out of the loop, with the introduction of rotary dialing, combined with the fast increase in demand for telephone services throughout the 20th century, resulted in the development of automated telephone switches. These devices comprised a set of input ports, each dedicated to, and associated with a specific caller, and output ports, each capable of being associated with a callee. A small local telephone system may have had a single switch while a larger service would use a large number of switches that were connected to each other. A switch from a local service provider would be connected to a trunk line which then connected to an input switch of another service provider. These switches originally supported analog voice calls initiated via rotary dialing and dedicating input and output ports as well as physical wires for each circuit-switched call.

18. Eventually analog voice services were replaced within the network with digital voice. Digital voice is communicated using a sequence of chunks (or packets) of data. This advancement allowed physical resources to be shared among multiple calls over short bursts of time. For example, a physical wire can move a packet for one call at a specific instance in time and then move a packet for a totally different call subsequently, only to later return to transfer a new packet for the original call. This advance is called packet-switched communications and provided an important increase in network reliability and efficiency while driving down the cost. However, in most situations throughout the 20th century (and often still today), the connection to the end user's physical telephone is analog. While network switches operate via digital circuitry, and often comprise programmable processors executing software, they tend to be dedicated special-purpose devices. The conversion between analog and digital encoding is typically done at the point where the PSTN network switch connects to the POTS handset, for example, at a device called a Class-5 telephone switch, which connects the customer POTS handset to the PSTN network of a service provider's central office.

19. The Internet became important to consumers, via broad deployment, during the late 1980's and early 1990's. Eventually available bandwidth and reliability increased to the point where pioneers began to experiment with techniques to carry voice communications over the Internet. These early efforts began to focus on techniques called Voice Over Internet Protocol (VOIP) and session initiation protocol (SIP). VOIP provided a consistent set of protocols and mechanisms for moving digital voice packets between two callers using the Internet rather than existing PSTN networks. SIP provided a mechanism for establishing and terminating communication sessions such as calls between users of a VOIP service. For example, a callee could register with a VOIP service so that an identifier (such as their name, email address or a

nickname) could be associated with the computer to which they are logged in. Eventually VOIP services increased to provide interoperability with the existing PSTN services. For example, the company Skype began to allow a user to call a PSTN number using a feature marketed as "Skype out". However, the user was required to explicitly classify the call as a PSTN call by specifying a real physical telephone number. In this case the VOIP system must include a gateway to bridge from the VOIP network to the PSTN network in order to route to the physical telephone. Calls that use a proprietary non-PSTN user identifier such as an email or nickname remain within the VOIP network and are not routed to the PSTN network and do not connect to a POTS telephone.

20. The advent of VOIP technology allowed customers to physically move their telephones from one location to another, even from one continent to another, with no fundamental change in its operation from the point of view of a caller once a connection to the Internet was established. However, the integration of network gateways to route between different types of networks using VOIP, for example from a VOIP caller in Europe to a PSTN callee in the United States, introduced a number of new complications. The VOIP service needed to be able to distinguish between callees that were within the VOIP network and those that were outside of it and thus required different methods for identifying callees and routing to them depending on whether the callees were within or outside the VOIP network. One way to identify callees on the VOIP network was to use a predefined proprietary user identifier such as an email or nickname. The VOIP service provider also needed to interpret dialed PSTN numbers in order to correctly route calls to a PSTN callee. A VOIP caller had to use different types of callee identifier depending on whether or not the destination (callee) they were calling was within the VOIP network or not. The caller's choice of the type of callee identifier thus specified the

network of the destination to be called. However, the asserted Patent-in-Suit discloses and claims a distinct manner of call routing.

21. Digifonica, a wholly owned subsidiary of patent owner VoIP-Pal, starting in 2004 eventually came to employ over a dozen top professionals (e.g., software developers, system administrators, QA/test analysts) including three Ph.D.'s with engineering backgrounds, to develop innovative software solutions for communications. Digifonica spent over $15,000,000 researching, developing, and testing a communication solution capable of seamlessly integrating a private voice-over-IP ("VoIP") communication network with an external network (i.e., the "public switched telephone network" or "PSTN"), by bridging the disparate protocols, destination identifiers and addressing schemes used in the two networks. By the mid-2000's, Digifonica had successfully tested intra- and inter-network communications (i.e., communications within the private Digifonica system and between the Digifonica system and the PSTN) by implementing high-capacity communication nodes across three geographic regions, including actual working communication nodes in Vancouver (Canada) and London (UK). *See* '606 patent at Fig. 1 (nodes 11, 21) and 13:19-35. Digifonica's R&D efforts led to a number of patent grants, including U.S. Patent No. 8,542,815, to which the Patent-in-Suit claims priority.

22. Prior to the '815 patent, private branch exchange (PBX) systems typically enabled users to call destinations internal to the PBX by dialing an extension (i.e., "private number") and destinations external to the PBX on the public switched telephone network (PSTN) by dialing a "public number." Such PBX systems relied on a user-specified classification of the dialed number to interpret the number and route the call. For example, it was a well-known practice to require that a user placing a call to the public network dial a predefined prefix such as "9" to indicate that subsequent digits were to be interpreted as a public PSTN number. If no prefix was

dialed, the dialed digits were to be interpreted as a private PBX extension. The number alone, as dialed, dictated how the call was routed. Thus, the user made an affirmative decision when placing a call as to whether the call would be routed over a public or private network.

23. Digifonica's system employed an approach fundamentally different from traditional PBX's: it did not rely on a caller-specified classification (e.g., a prefix digit) to distinguish private calls from PSTN calls. Rather, Digifonica provided flexible, user-specific dialing features and could decouple the type of number being called from the manner in which the call would be handled. For example, even if a public PSTN number was dialed, Digifonica's system could determine that the call should be routed to an internal destination on its private network, thus allowing the advantages of private network calling even if callers were unaware that the call recipient ("callee") was a Digifonica system subscriber. If, on the other hand, the PSTN number represented a destination on an external network (e.g., the public network), the Digifonica system facilitated the routing of the call to the destination through a gateway.

24. VoIP-Pal's/Digifonica's technology and patents represent fundamental advancements to Internet Protocol ("IP") based communication, including improved functioning, classification, routing and reliability of Voice-over-IP (VoIP) and IP-based transmission of video, photographs, messages and mixed media, as well as improved interoperability of IP-based private communication networks with external networks, such as the public switched telephone network (PSTN), interconnected with the private communication networks via one or more gateways.

25. The Patent-in-Suit provides, *inter alia*, improvements in routing controllers, processes, networks and systems. Several illustrative examples of such improvements are briefly

described below, although the patented invention is not limited to these specific improvements or examples.

26. The public switched telephone network (PSTN) connected callers through nodes such as central offices or exchanges. Because these nodes were limited to providing services only to subscribers in a "local calling service area," they required callers to place calls in a specific manner, e.g., by requiring the use of certain dialing patterns and conventions associated with that local area. *See* '606 patent at 1:42-46. For example, it was known to persons of skill in the field of the invention that PSTN nodes conventionally required PSTN callers to dial in a manner compatible with a local numbering plan (e.g., in the U.S., a plan consistent with the "North American Numbering Plan" or "National Numbering Plan," in use by AT&T as early as about the 1940's and further developed in later years) as well as to dial in a manner compatible with international standards such as those of the International Telecommunications Union (ITU) Telecommunications Standardization Sector (ITU-T). *See* '606 patent at 19:52-66. For example, it is known in the field of telephony that early numbering plans assigned an "area code" of 312 for calling Illinois, and that this area code (312) remains in use even today as an area code for Chicago. To take another example, the ITU designates "44" as a "country code" for calling the United Kingdom. *Id*. at Fig. 12 ("County Code" attribute for London user is "44").

27. Large organizations were able to avoid PSTN dialing constraints, at least for internal calls, by using private branch exchanges (PBXs) and private numbering plans for their internal private telephone networks, a these PBXs also needed to provide caller access to the PSTN. *See* '606 patent at 1:35-48. As Andy Valdar has explained in his textbook, "Businesses which have more than a few telephones use a private branch exchange system, known as a PBX, to provide call connections between each telephone (which become 'extensions') and links into

the PSTN... The PBX is really a small version of the PSTN exchanges, typically ranging in sizes from 10 up to 5,000 extensions. A private numbering scheme is required to enable extension to extension dialing, also ***special codes (e.g. 'dial 9')*** are required to enable calls to be made to the PSTN. [...] In the case where a company extends over two or more sites (e.g. office or factory buildings) the PBXs on each site can be linked by private circuits, thus enabling calling between all the extensions. This is known as a 'private corporate network' (or just 'private network'). In this case the private numbering scheme extends across all the PBXs and usually each PBX is linked to the PSTN." (*See* Valdar, Andy, Understanding Telecommunications Networks, The Institution of Engineering and Technology, London, UK, 2006, p. 38 (emphasis added)).

28. It was well-understood, routine and conventional for PBXs to require users to dial a special code (e.g., a prefix digit of "9") if they wanted to place a call on the PSTN, as noted by Valdar and numerous other sources. For example, one telecom dictionary distinguishes between dialing an "internal PBX station number" and an "external number," wherein in the latter case, "the user must dial an access code in order to gain access to an external trunk connected to the public switched telephone network (PSTN)... The ***conventional*** access code is nine (9) in the United States and Canada, and zero (0) in most other countries". (*See* Ray Horak, Webster's New World Telecom Dictionary, Wiley Publishing, Inc., Indianapolis, Indiana, 2008, p.133 [emphasis added]). To take another example, U.S. Patent No. 3,725,596 to Maxon et al. ("Maxon"), filed in 1971, discloses an discloses an early private branch exchange (PBX) having equipment for automatically generating and transmitting calling station and trunk number information to a central office on outgoing calls. Maxon indicates that "a calling party at station ST10... dials a prefix digit, such as the ***conventional*** prefix digit 9, to initiate an outgoing call to the central office. The digit 9 is... detected by the dial 9 detector 152. Upon the detection of this

digit, the register control circuit 153 advises common control that the digit 9 has been dialed for a central office call." [emphasis added]. Maxon at 9:66-10:6; *see* also Fig. 1B (152), 8:58-68, 9:21, 9:38-40, 13:3-6, 14:6-7 and at 14:59. Webster's New World Telecom dictionary and Maxon both confirm that it was considered "conventional" to use a prefix digit such as "9" to place a PSTN call from a PBX. The Patent-in-Suit eschewed such well-understood, routine and conventional approaches to integrating these two networks.

29. A person of skill in the art (POSITA), upon review of the Patent-in-Suit, would have understood that the disclosed embodiments are inherently computer-based. The POSITA would further appreciate that the asserted claims of the Patent-in-Suit are necessarily rooted in computer technology for the operation of communication networks, and provide technical improvements to overcome certain technical limitations of prior art routing processes, systems and networks, *viz*., that the asserted claims provide technology solutions for one or more of: (1) user-specific communication handling, (2) transparent routing, and (3) network resiliency and (4) communication blocking.

30. ***User-Specific Communication Handling***: Many prior art communication systems required users to place a call by using a specific callee identifier format or by following certain dialing conventions with no opportunity for defining a user-specific manner of placing calls. For example, as discussed above, PSTN nodes were typically limited to supporting only the dialing conventions of their local calling service area, processed calls locally (*See* '606 patent at 1:42-46), and did not support user-specific calling. The technology disclosed in the Patent-in-Suit and recited in the asserted claims overcomes such technical limitations and supports user-specific calling styles, e.g., calling styles from any continent or country based on the application of user-specific attributes and network classification criteria to callee identifiers to route a call. It is

unnecessary for the user to do anything special to "trigger" such user-specific call processing. *See, e.g.*, '606 patent at 15:48-60 and 19:36-51 (disclosing storing user-specific parameters in association with each subscriber/user), 19:18-42 (describing a user-specific dialing profile capable of supporting numerous global styles of dialing), and Figs. 8A-8D (disclosing steps for processing a routing request based in part on user-specific parameters). By evaluating a called party identifier based on profile settings or "attributes" associated with the calling party, the technology provides an individually customizable manner of initiating a communication to a destination party. To be clear, it is not merely a calling party's identifier (i.e., "caller ID" or "caller identifier") that is used to evaluate the called party's identifier (e.g., "callee identifier"); rather, a caller-specific *profile*, identifying caller-specific parameters/attributes, is used to evaluate the called party's identifier, to determine the routing destination and to engage the appropriate infrastructure for effecting the communication. A skilled person in the field of the invention would recognize, in light of the patent specification, that this approach is capable of fulfilling various individual service preferences among users for initiating communications (e.g., any desired PSTN dialing style, unconventional dialing styles, and even use of special callee identifiers such as usernames). *See id*. at 19:36-48; 20:33-47; 22:3-23:22. To give just one illustrative example, the profiles of two different users may specify different ways of dialing an international call (e.g., an "IDD" attribute in two different user's profiles may differ: *see id*., "IDD" attributes in the user profiles shown in Figs. 11 and 12 are set to "011" and "00", respectively; *compare* blocks 257-259 in Fig. 8B). All of the asserted claims of the Patent-in-Suit enable user-specific handling of communications; in particular, every claim recites relies on user-specific attributes, associated with a user-specific profile of the calling party, for determining and establishing routing to the destination. Enabling a communication system,

node, or routing controller to provide customized, user-specific communication handling to each individual user represents a technological improvement over conventional prior communication systems, nodes, and devices, which simply imposed "one-size-fits-all" methods of communication on all users.

31. ***Routing Transparency***: Some prior art communication systems required a user to explicitly signal how a call should be processed or to manually "trigger" special call handling. For example, as discussed above, it was well-understood, routine and conventional for PBX systems in large organizations to rely on a user-specified classification of the dialed number to interpret the number and route the call—e.g., a user placing a call to the PSTN would dial a predefined prefix such as "9" to indicate that subsequent digits were to be interpreted as a PSTN number. If no prefix was dialed, the dialed digits were interpreted as a private PBX extension. The dialed digits alone dictated how the call was routed, and thus the user made an affirmative decision when placing a call as to how the call's routing would take place. Furthermore, when a PSTN number was dialed, the PSTN number itself identified which PSTN node within the public switched telephone network was connected to the called party. In the foregoing example, the PBX failed not only to provide user-specific call handling, but it also lacked *routing transparency*. In contrast, the asserted claims of the Patent-in-Suit use a caller's attributes to evaluate a callee identifier against network routing criteria to cause a call to automatically be routed over a system network/node or another network (e.g., such as the PSTN) interconnected to the system network through a gateway, *transparently* to the user, without the user manually specifying which network or node to use for routing by the user's manner of placing the call (e.g., by dialing a prefix of "9" to make a PSTN call) and without requiring that a particular callee identifier be routed to a destination on a particular network or node. Instead, in the

provided solution, the system itself identifies which network and/or node to use for routing. This is an improvement over conventional prior approaches because the caller need not know or specify the location of a destination (e.g., the network or node of the called party); moreover, a particular callee identifier can be flexibly assigned (or reassigned) to different networks or nodes. Still further, the assignment of PSTN telephone numbers need not follow PSTN conventions, for example, a subscriber's communication device can be assigned a PSTN number corresponding to a different geographical location on the PSTN (e.g., a Calgary user can be assigned a phone number ("1-604-867-5309") with a non-Calgary area code ("604") and exchange code ("867"): *see id*. at Figs. 11 and 14)—and the system will transparently route calls to the Calgary user's device without the caller even recognizing that the destination device is not located within the geographic area associated with the "604" area code or the "867" PSTN exchange (node).

32. To further illustrate these benefits with one embodiment disclosed in the '606 patent, if a Vancouver user (user profile in Fig. 10) dialed a PSTN phone number associated with the London user (user profile in Fig. 12), the system would evaluate the dialed digits based on the caller's attributes, determine that the London user is a subscriber to the system, and classify the call as a system network call, identifying a subscriber username such as "44011062444" (*See* '606 patent at Fig. 8B, Fig. 12, 21:1-10). A routing controller (*id*. at 16 in Figs. 1 and 7) determines that the London subscriber is associated with a different system communication node than the Vancouver subscriber, and produces a routing message identifying that node (*id*. at Fig. 16; *see also id*. at 21:10-34; Fig. 8A at 280, 302, 350, 381) for receipt by a call controller (*id*. at 14 in Fig. 1), thereby causing the call controller to establish the call (*id*. at 27:40-43). The caller in this illustrative embodiment need not be aware that the London user is a subscriber and need not know whether or not the call is being placed over the PSTN, nor does the caller need to know

which system node the called party uses. Thus, the identification of the destination network and node is transparent to the user: the same manner of initiating a communication can reach destinations associated with any node of the system and on either network. For example, the caller could also call a PSTN number in London, UK representing a *non*-subscriber phone in London in the same manner, and the system would determine in that case that the call should be established via the PSTN, in which case the routing message would identify at least one appropriate gateway for routing the call (*id*. at 23:50-25-60 and Fig. 25). All the claims of the Patent-in-Suit recite features that enable some form of transparent routing.

33. In some claimed embodiments of the invention, a node associated with the callee identifier is identified (e.g., from a call*ee* profile stored in the communication system) and the communication is automatically forwarded to that node for further handling. *See* '606 patent at Fig. 8A (302, 350, 381). This, too, is transparent to the originator of the communication, who does not have to take any special action to "trigger" the identification of, or routing to, a node with which the callee is associated. In this manner, the system architecture can distribute the load of very large numbers of subscribers from a large geographic area without imposing any requirement on users to know how to route to the node at which the callee is currently registered. *See* '606 patent at 13:20-44. If the system operator should reassign subscribers or adds nodes to the system, as needed, for better performance or to maintain quality of service, the caller need not know this—the node can be identified dynamically. In contrast, in the conventional PSTN, when a new "area code" was overlaid to handle larger number of customers, callers were inconvenienced by having to learn new phone numbers or styles of dialing. Similarly, it was known that conventional PSTN exchanges (nodes) required that a particular exchange code be used as part of any PSTN telephone numbers assigned to that exchange. Unlike conventional

PSTN equipment, Digifonica's routing system removed the requirement to assign particular callee identifiers to nodes located in a particular geographic area. Thus, Digifonica's system architecture and operation not only provided improved transparency and flexibility in routing via nodes of the system (as well as via gateways), it also gave rise to improved system resiliency, aspects of which are described below in greater detail with reference to the patent specification.

34. Yet another benefit was that Digifonica's technology enabled automatic network selection based on determination of a callee's registration status. Because Digifonica's system supported the use of PSTN numbers both for subscribers on its own private network as well as for non-subscribers on a public network (e.g., the PSTN), a caller might know the PSTN number of a destination without knowing whether the destination was reachable via Digifonica's IP-based network. Digifonica's technology automatically determined whether the destination was a subscriber and, if so, routed over Digifonica's network notwithstanding that a PSTN number had been dialed. This enabled callers to receive the advantages of IP-based private network calling even when callers were unaware that the callee was a Digifonica system subscriber; such calls could be transparently placed over Digifonica's IP-based network at lower cost, with better quality and/or higher reliability than if the call had been sent over the PSTN network. In comparison to the prior art examples described above, Digifonica's approach was unconventional in that it decoupled the type of number being dialed from the classification and routing of the call. As a further example, Digifonica's network was designed to support multiple resellers of its communication services: *See, e.g.,* '606 patent at 19:22-24, 31:45-32:54; and Figs. 9-12 (field 273), 41, 43, 45, 47-50, disclosing support for different resellers (e.g., phone companies retailing communication services based on Digifonica's network under their own brand). Using the aforesaid technology, calls by callers to callees who were affiliated with a

different reseller of communication services based on Digifonica's network, would automatically and transparently be routed over Digifonica's IP-based network even without the caller or callee knowing that both parties were Digifonica subscribers. Such network selection was especially helpful to overcome the costs and limitations of public networks when the calls were international, e.g., from callers using Digifonica's node in North America (e.g., Vancouver) to callees associated with the node in Europe (e.g., London). *Id*. at Fig. 1.

35. ***Resiliency***: Some prior art provided service to a limited area "[such as] one location, or a small number of branch offices" (*see* '606 patent at 1:56-59) but was incapable of providing reliable service to a large number of subscribers dispersed over a geographically dispersed area such as a continent (*id*. at 1:53-56). For example, PSTN exchanges and nodes were limited to serving a "local calling service area" (*id*. at 1:42-48), whereas the PBX systems described above in the Valdar textbook were "really a small version of the PSTN exchanges, typically ranging in sizes from 10 up to 5,000 extensions" (*see* Valdar, *supra*; cf. '606 patent at 1:35-39). Furthermore, at a system-level, such networks did not always have "other nodes... able to take up the load" if a particular node failed, e.g., due to a natural disaster (*See* '606 patent at 1:45-52). In contrast, the patented inventions can provide reliable service to large areas including countries and continents, having overcome technical challenges regarding how to handle issues such as a very large number of subscribers, bursts of excessive demand and/or the risk of communication node failure, all of which affected system reliability. The patented embodiments describe technology for flexibly assigning nodes to particular geographical areas and/or sets of subscribers, including the option of adding redundant nodes with overlapping responsibility for load sharing. The various nodes are configured to provide communication services to sets of subscribers that are associated with those nodes. *See* '606 patent at 13:20-40 (disclosing a

network of super nodes providing communication services to large geographical regions) and 13:41-44 (disclosing nodes for "call load sharing"). The technology can perform call routing by identifying a suitable system network node or a gateway (e.g., a gateway to the PSTN) in response to evaluation of the caller's attributes, the callee identifier, and available routing resources. *See* Figs. 8A-D. This design made it simple to allocate or add new nodes and gateways to particular regions or destinations (*see* '606 patent at 13:20-44 , 25:48-60, 27:40-43; 27:60-28:3). The use of caller attributes, a callee identifier and routing criteria to produce the routing message, as described in the Patent-in-Suit, allowed such new nodes and gateways to be identified in the routing message to increase service availability to subscribers as needed without redesigning the routing apparatus and process, to create an improved, resilient and reliable global routing system. Unlike some prior art systems, the Digifonica technology did not need to use SS7 protocol to access PSTN databases (cf. '606 patent at 1:39-41) and could eliminate such dependence as a possible point of failure. Digifonica's technology also supported routing through an *available* gateway that was selected from among a plurality of supplier gateways, which also improved overall system resilience. *See* '606 patent at 27:60-28:19.

36. ***Communication Blocking***: Digifonica's inventions, among other important advances, enabled various methods of communication blocking. Callers can have caller-specific attributes associated with their profile for determining, in a caller-specific manner, whether or not they are permitted to initiate a communication. *See* '606 patent at 20:12-30. Furthermore, the caller-specific attributes associated with the caller's profile can provide a basis for establishing whether an attempted communication is valid, e.g., by checking the validity of the called party identifier. *See* '606 patent at 20:28-32 and Fig. 8B. Notably, what constitutes a valid initiation of a communication was a user-specific determination because it depended on user-

specific profile attributes. For example, the London user cannot initiate international calls with a "011" prefix (cf. IDD attribute in user profile in Fig. 12 of the '606 patent), but the Vancouver user can do so (cf. Fig. 11). Digifonica's approach in this regard was *unconventional* compared to the prior art, which imposed a manner of call placement (e.g., dialing style) on all users that was not configurable in a user-specific manner: e.g., conventionally, all PBX users had to dial a *particular* predefined digit to dial PSTN calls; similarly, all PSTN users in a local area could dial only according to the local numbering plan. Finally, callee-specific information was supported in Digifonica's technology for identifying how an incoming communication to each particular subscriber was to be handled, to enable the communication system to implement selective call blocking, selective call forwarding, and/or selectively routing communications to voice mail without interrupting the callee or the caller making an explicit choice. *See* '606 patent at Fig. 8A (e.g., steps 602, 608, 610), Fig. 8B, Figs. 26-32.

37. The '815 patent and the '005 patent, to which the Patent-in-Suit claim priority, survived eight *inter partes* reviews ("IPR's") by the U.S. Patent Office based on prior art disclosing making routing decisions. *See* IPR2016-01201 and IPR2016-01198, filed by Apple (final written decisions upholding the validity of all challenged claims), with the remaining IPR's all denied institution: IPR2017-01398 and IPR2017-01399 filed by Apple; IPR2017-01383, IPR2017-01384 and IPR2017-01385, filed by AT&T; and IPR2016-01082, filed by Unified Patents. The U.S. Patent and Trademark Office rejected all of the cited communication routing art as not rendering the '815 patent and the '005 patent invalid. Apple later filed four *inter partes* review petitions against four continuation patents, namely, IPR2019-01003, IPR2019-01006, IPR2019-01008 and IPR2019-01009, filed against U.S. Patent Nos. 9,537,762 ("the '762 IPR"), 9,813,330 ("the '330 IPR"), 9,826,002 ("the '002 IPR") and 9,948,549 ("the '549 IPR"),

respectively. *See Apple, Inc. v. VoIP-Pal.com, Inc.*, IPR2019-01003, -01006, -01008, -01009, Paper 2 (P.T.A.B., May 13, 2019). All of these petitions were denied by the PTAB. On information and belief, the asserted claims of the Patent-in-Suit are inventive over the art cited against the parent patents. On information and belief, there are numerous methods of communication routing described in the prior art and thus the claims of the Patent-in-Suit do not preempt any fundamental longstanding practice, method or system of communication routing. On information and belief, the specific solutions recited in the claims of the Patent-in-Suit were not performed by telephone operators or otherwise performed in a "brick-and-mortar" context prior to the invention thereof by Digifonica personnel.

38. As described above, Digifonica eschewed various conventional approaches to routing communications and instead provided user-specific access to transparent routing across a distributed network architecture. For example, one inventive concept utilized in the Patent-in-Suit claims—which was *not* well-understood, routine or conventional for persons of skill in the art at the time of the invention—involved providing an improved routing process, apparatus and system, in which user-specific profile "attributes" are utilized to evaluate a "second participant identifier" to identify, in a "routing message," an appropriate routing "network address" for establishing the communication, which causes routing of the communication to the destination.

39. The Patent-in-Suit represents fundamental advancements to the art of internet protocol (IP) based communication, including improved functioning, routing and reliability for communications over the internet and improved interoperability of network infrastructure.

40. VoIP-Pal is the sole owner and assignee of the entire right title and interest in the '606 patent and has the right to sue and recover damages for any current or past infringement of the '606 patent.

OVERVIEW OF THE ACCUSED INSTRUMENTALITIES

41. Each of the instrumentalities described in this Complaint made, used, sold, licensed and/or offered for sale by Apple comprises systems, devices and computer-executable program code relating to and supporting communications using devices, computers, servers, systems and methods used by, operated by and performed by Apple.

42. Apple manufactures devices related to communications, and in particular, supports an audio/video-over-IP platform ("Facetime") that includes Apple desktop computers, laptops, tablets, watches and mobile devices; software applications running on such devices; and servers, nodes and/or clusters operated by Apple that allow audio/video and audio-only calls to be placed over different networks. Apple Facetime allows an Apple device, including desktop and tablet devices, to initiate an audio/video call or an audio-only call between a first participant and a second participant. A first participant profile (e.g., a contact list specific to the initiating party) is utilized in the determination of how a call is routed to a second participant's device. On information and belief, each participant device is associated with one or more network elements, e.g., servers, clusters and/or nodes. The second participant may be associated with the same node and/or cluster as the first participant or may be associated with another node and/or cluster.

43. Apple manufacturers, supports and operates a messaging platform (the "Apple Messaging System") that includes Apple desktop computers, laptops, tablets and mobile devices, software applications running on such devices and servers associated with iMessage, an instant messaging service. The Apple Messaging System allows smartphone and desktop users to send messages including text, images, video and audio to others. The Apple Messaging System allows devices to initiate a communication between a first participant and a second participant. A first participant profile (e.g., the initiating party's contact list) is utilized in the determination

of how an initiated communication such as an iMessage is routed to the second participant's device. On information and belief, each participant device is associated with one or more network elements (e.g., clusters and/or nodes). The second participant may be local to a network element (e.g., node and/or cluster) associated with the first participant or may be accessible on another node and/or cluster. Subsequent to a first communication, a communication may be established to a third participant device over a public network (e.g., PSTN).

44. Facetime and the Apple Messaging System are referred to in this Complaint as the Accused Instrumentalities.

COUNT 1
INFRINGEMENT OF U. S. PATENT NO. 10,218,606

45. Paragraphs 1 through 44 are incorporated by reference as if fully stated in this Count.

46. Apple, either alone or in conjunction with others, has infringed and continues to infringe, both directly and indirectly, one or more claims of the '606 patent, including at least exemplary claims 8 and 15, under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by using, offering to sell, selling, licensing and/or importing into the United States at least certain methods, apparatuses, products and services used for communication, including, without limitation, the Accused Instrumentalities.

47. For example, Apple infringes exemplary claims 8 and 15 of the '606 patent by using, offering to sell, selling, licensing and/or importing into the United States at least the Accused Instrumentalities as detailed in Exhibit 2 to this Complaint.

48. On information and belief, Apple has had knowledge of the '606 patent since at least February 26, 2019 when the '606 patent issued. Alternatively, Apple has had knowledge of the '606 patent since at least March 12, 2019 when VoIP-Pal issued a press release announcing

the issuance of the '606 patent. *See* https://www.globenewswire.com/news-release/2019/03/12/1751617/0/en/Voip-Pal-com-Announces-the-Deadline-for-Filing-an-Opposition-to-Their-European-RBR-Parent-Patent-has-Expired-with-No-Known-Opposition.html).

49. Despite its knowledge and notice of the '606 patent and its infringement of that patent, Apple has continued to make, use, sell and offer to sell the Accused Instrumentalities in the United States. Accordingly, Apple's infringement has been and continues to be willful.

50. Apple has induced infringement, and continues to induce infringement, of one or more claims of the '606 patent under 35 U.S.C. § 271(b). Apple actively, knowingly, and intentionally induced, and continues to actively, knowingly and intentionally induce infringement of the '606 patent by: selling or otherwise making available and/or supplying the Accused Instrumentalities; with the knowledge and intent that third parties will use the Accused Instrumentalities supplied by Apple to infringe the '606 patent; and with the knowledge and intent to encourage and facilitate third party infringement through the dissemination of the Accused Instrumentalities and/or the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information related to the Accused Instrumentalities.

51. Apple specifically intended and was aware that the ordinary and customary use of the Accused Instrumentalities would infringe the '606 patent. For example, Apple sells, uses, makes available and provides the Accused Instrumentalities, which, when used in their ordinary and customary manner as intended by Apple, infringe one or more claims of the '606 patent, including at least exemplary claims 8 and 15. Upon information and belief, Apple further provides product manuals and other technical information that cause Apple customers and other

third parties to use and to operate the Accused Instrumentalities for their ordinary and customary use. Apple customers and other third parties have directly infringed the '606 patent, including at least exemplary claims 8 and 15, through the normal and customary use of the Accused Instrumentalities. By providing instruction and training to customers and other third parties on how to use the Accused Instrumentalities in an infringing manner, Apple specifically intended to induce infringement of the '606 patent, including at least exemplary claims 8 and 15. Apple accordingly has induced and continues to induce Apple customers and other users of the Accused Instrumentalities in their ordinary and customary way to infringe the '606 patent, knowing, or at least being willful blind to the fact, that such use constitutes infringement of the '606 patent.

52. VoIP-Pal has been and continues to be damaged by Apple's infringement of the '606 patent.

53. Apple's conduct in infringing the '606 patent renders this case exceptional within the meaning of 35 U.S.C. § 285.

DEMAND FOR JURY TRIAL

54. Pursuant to Rule 38 of the Federal Rules of Civil Procedure and Local Rule 38(a), VoIP-Pal demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, VoIP-Pal prays for the following relief:

a) A judgment and order that Apple has directly infringed (either literally or under the doctrine of equivalents) and/or induced the infringement of the '606 patent;

b) A judgment and order permanently enjoining Apple, its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns and any other

person(s) in active concert or participation with Apple from directly infringing the '606 patent for the full term of that patent;

c) A judgement that the infringement of the '606 patent by Apple has been willful;

d) A judgment and order requiring Apple to pay VoIP-Pal an award of damages under 35 U.S.C. § 284, adequate to compensate VoIP-Pal for Apple's past infringement, but in no event less than a reasonable royalty, including enhanced damages as provided by 35 U.S.C. § 284, and supplemental damages for any continuing post-verdict infringement up until entry of the final judgment with an accounting, as needed, as well as damages for any continuing or future infringement up to and including the date that Apple is finally and permanently enjoined from further infringement;

e) A judgment and order requiring that in the event a permanent injunction preventing future acts of infringement is not granted, that VoIP-Pal be awarded a compulsory ongoing licensing fee;

f) A judgment and order that this action be found an exceptional case pursuant to 35 U.S.C. § 285, entitling VoIP-Pal to an award of all costs of this action, including attorneys' fees and interest;

g) A judgment and order requiring Apple to pay VoIP-Pal the costs of this action;

h) A judgment and order requiring Apple to pay VoIP-Pal pre-judgment and post-judgment interest on the damages award; and

i) Such other and further relief as the Court deems just and equitable.

Dated: April 7, 2020

Respectfully submitted,

By: /s/Lewis E. Hudnell, III

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