

## VPLM Patent Information Summary (2021-03-01)

VoIP-PAL owns a worldwide portfolio of issued patents covering numerous inventions, including, but not limited to the following technology areas:

1. classification and routing of communications over different networks and over geographically distributed nodes;
2. lawful intercept of such communications;
3. enhanced emergency calling support (e.g., E911);
4. mobile gateways;
5. uninterrupted transmission during endpoint changes; and
6. metering and billing, including the reselling of “white label” telecommunication services.

VoIP-PAL is currently pursuing patent infringement lawsuits against several Fortune 500 companies that the Company believes are practicing its patented inventions.

A brief summary of the Company’s patents is provided below, focusing primarily on patents issued in the U.S. (some limited discussion is provided of the Company’s other patent assets). The brief summaries below are provided for convenience only and without prejudice to the Company’s rights; it will be appreciated that the scope of the Company’s patents can only be discerned by conducting a full legal analysis under the applicable legal standards and is subject to Court decisions.

VoIP-PAL’s patent portfolio covers the following technologies:

### 1. Classification/routing of communications

- U.S. Patent Nos. 8,542,815; 9,179,005; 9,537,762; 9,813,330; 9,826,002; 9,935,872; 9,948,549; European Patent No. 2,084,868; and Indian Patent No. 287,412, all generally relate to classification/routing of communications.
- VoIP-PAL has asserted U.S. Patent Nos. 8,542,815 and 9,179,005 against Apple, AT&T, Verizon and Twitter (initially filed in U.S. District Court, Nevada; later transferred to U.S. District Court for the Northern District of California). These patents were subject to eight (8) *Inter Partes* Review (IPR) proceedings before the USPTO, which were decided in VoIP-Pal’s favor. Some of the asserted claims have been invalidated under § 101 during the court proceedings, however, certain non-overlapping claims that had been reviewed in the IPR proceedings were left intact. The defendants may choose to challenge the remaining claims in district court proceedings.
- VoIP-Pal has asserted U.S. Patent Nos. 9,537,762, 9,813,330, 9,826,002 and 9,948,549 against both Apple and Amazon (initially filed in U.S. District Court, Nevada; later transferred to U.S. District Court for the Northern District of California). While the asserted claims were invalidated under § 101 by the District Court, as affirmed by the Federal Circuit, VoIP-Pal reserves the right to file a cert petition.
- VoIP-Pal has asserted U.S. Patent No. 10,218,606 against Apple, Amazon, AT&T, Verizon, Google, Facebook and Whatsapp in U.S. District Court in the Western District of Texas.
- Brief descriptions of each of these patents are provided below.

*1.1 U.S. Patent No. 8,542,815*, issued September 24, 2013, generally relates to, among other things, classifying a call as pertaining to a public network or a private network based on a match of one or more attributes associated with a caller and an identifier associated with a callee and network classification criteria.

The ‘815 Patent was the subject of four IPR challenges by Apple, Unified Patents, and AT&T Services, one of which was instituted and resulted in a final written decision confirming the patentability of all challenged claims. The ‘815 has been asserted against Apple, AT&T, Verizon and Twitter. Some, but not all, of the asserted claims have been found patent-ineligible in court proceedings under § 101.

*1.2 U.S. Patent No. 9,179,005*, issued November 3, 2015, generally relates to, among other things, routing communications by producing a public or private routing message based on a classification criteria of one or more attributes associated with a caller and an identifier associated with a callee.

The '005 Patent was the subject of four IPR challenges by Apple and AT&T Services, one of which was instituted and resulted in a final written decision confirming the patentability of all challenged claims. The '005 has been asserted against Apple, AT&T, Verizon and Twitter. Some, but not all, of the asserted claims have been found patent-ineligible in court proceedings under § 101.

1.3 *U.S. Patent No. 9,537,762*, issued January 3, 2017, generally relates to, among other things, classifying a communication as pertaining to a first or second network based on attributes associated with a first participant to the communication and classification criteria which may include whether a second participant to the communication is registered with the system.

1.4 *U.S. Patent No. 9,813,330*, issued November 7, 2017, generally relates to, among other things, classifying a communication as a system communication or external network communication based at least in part on comparing attributes associated with a first participant in a communication with an identifier associated with a second participant.

1.5 *U.S. Patent No. 9,826,002*, issued November 21, 2017, generally relates to, among other things, classifying a communication as a system communication or external network communication based at least in part on a new second participant identifier produced by processing a second participant identifier based on a first participant's attributes.

1.6 *U.S. Patent No. 9,948,549*, issued on April 17, 2018, generally relates to, among other things, classifying a communication as a system communication or external network communication and producing a routing message based at least in part on a new second participant identifier produced by processing a second participant identifier based on a first participant's attributes.

1.7 *U.S. Patent No. 9,935,872*, issued April 3, 2018, generally relates to, among other things, using at least one first participant attribute to determine whether a communication initiated from a first participant device to a second participant device is allowed to proceed, and if it is allowed to proceed, whether it should be routed to its destination via a first network element or a second network element.

1.8 *U.S. Patent No. 10,218,606*, issued February 26, 2019, relates to, among other things, processing at least one first participant attribute and a second participant identifier to determine whether a communication initiated from a first participant device to a second participant device in a packet switched or Internet Protocol (IP) based communication system can be routed using either a local cluster/node or a remote cluster/node.

1.9 *European Patent No. 2,084,868*, granted May 30, 2018, relates to, among other things, the classification/routing of communications and is similar to the counterpart U.S. patents directed to this subject matter (*see* descriptions of U.S. patents above).

1.10 *Indian Patent No. 287,412*, granted September 15, 2017, relates to, among other things, the classification/routing of communications and is similar to the counterpart U.S. patents directed to this subject matter (*see* descriptions of U.S. patents above).

1.11 *Indonesian Patent No. IDP000040412* similarly relates to classification/routing (*see* above patent descriptions).

1.12 *Brazil Patent No. PI 0718312-7*, granted May 19, 2020, similarly relates to classification/routing (*see* above).

1.13 *Canadian Patent No. 2,668,025*, issued February 25, 2020, relates to classification/routing, similarly to the counterpart U.S. patents described above.

1.14 *Canadian Patent No. 3,045,672*, issued January 19, 2021, relates to classification/routing, similarly to the counterpart U.S. patents described above.

1.15 *Canadian Patent No. 3,032,707*, issued February 9, 2021, relates to classification/routing, similarly to the counterpart U.S. patents described above.

## 2. Lawful intercept

- U.S. Patent Nos. 8,422,507; 9,143,608; 9,549,071; and 10,038,779 generally relate to, for example, lawfully intercepting Voice Over IP (VoIP) and other data communications (e.g., when required by law enforcement agencies).
- None of these patents are currently asserted in litigation.

2.1 *U.S. Patent No. 8,422,507*, issued April 16, 2013, applies, for example, to lawful intercept scenarios in which communications originating in an Internet Protocol (IP) network system from a subscriber to another party occur through a media relay, where information associated with the subscriber profile meets intercept criteria, such that a routing message is produced to cause the media relay to send a copy of the communications to a mediation device.

2.2 *U.S. Patent No. 9,143,608*, issued September 22, 2015, applies, for example, to lawful intercept scenarios in which communications originating in an Internet Protocol (IP) network system from a subscriber to another party occur through a media relay, and where a profile associated with the subscriber includes intercept determination information and destination information indicating where to send monitored communications. For example, when intercept criteria are met, at least some of the intercept determination information and the destination information are included in a routing message.

2.3 *U.S. Patent No. 9,549,071*, issued January 17, 2017, generally relates to, among other things, lawfully intercepting Internet Protocol (IP) communications between a first party and a second party, where a profile associated with the first or second party includes intercept determination information and destination information for one of the first or second party that is to be monitored, the destination information indicating where to send the monitored communications. For example, when an intercept criterion is met, at least some of the intercept determination information and the destination information is included in a routing message.

2.4 *U.S. Patent No. 10,038,779*, issued July 31, 2018, generally relates to lawfully intercepting VoIP or other data communications between a first party and a second party, based on an intercept request message that contains (a) an identification of at least one party whose communications are to be monitored, (b) intercept determination information, and (c) destination information indicating where copies of intercepted communications are to be sent. For example, when an intercept criterion is met, at least some intercept determination information and destination information is included in a routing message.

2.5 *U.S. Application no. 15/861,572*, also relates to lawfully intercepting VoIP or other data communications between parties.

2.6 *European Patent No. 2,090,024*, granted March 4, 2020, similarly relates to lawful intercept of communications.

2.7 *Canadian Patent No. 2,670,510*, granted December 22, 2020, also relates to lawful intercept of communication.

### 3. Mobile gateway

- U.S. Patent No. 8,630,234, U.S. Patent No. 10,880,721 and Canadian Patent No. 2,732,148 generally relate to, among other things, methods for channeling communications into distributed VoIP gateways (e.g., to allow mobile phones to establish communications from a wide range of geographical locations, and in some instances, to avoid or minimize long-distance charges while roaming in a geographical area serviced by another cellular provider).
- These patents are not currently involved in any litigation.

3.1 *U.S. Patent No. 8,630,234*, issued January 14, 2014, generally relates to, among other things, a method of roaming with a mobile phone. For example, the mobile phone could receive an access code reply message from the access server that includes a temporary access code allowing the mobile phone to initiate a call to the callee using the access code. In some applications, the mobile phone can avoid incurring long-distance roaming charges.

3.2 *U.S. Patent No. 10,880,721*, issued December 29, 2020, generally relates to, among other things, a method of roaming or establishing communications with a wireless device from various locations.

3.3 *Canadian Patent No. 2,732,148*, issued April 25, 2018, is directed to, among other things, subject-matter similar to the counterpart U.S. patents (*see* description above).

### 4. Emergency assistance calling

- U.S. Pat. Nos. 8,537,805 and 9,565,307, and Canadian Patent No. 2,681,984 generally relate to emergency assistance calling and are applicable, for example, to certain E911 scenarios.
- None of these patents are currently asserted in litigation.

4.1 *U.S. Patent No. 8,537,805*, issued September 17, 2013, relates to, among other things, handling emergency calls from a caller in a voice over IP (VoIP) system. The '805 Patent could apply, for example, when a routing request message is received and the contents of an emergency call identifier field of a profile match the callee identifier. In this example, if the caller identifier is not associated with a pre-associated identifier, a temporary identifier is associated with the caller. When the emergency call flag is active, for example, a routing message establishes a route between the caller and an emergency response center, the routing message including an emergency response center identifier from a profile associated with the caller and the DID identifier associated with the caller.

4.2 *U.S. Patent No. 9,565,307*, issued February 7, 2017, relates to, among other things, routing emergency communications. The '307 Patent could apply, for example, when a routing request includes the caller identifier and the callee identifier, and where the caller identifier identifies a profile associated with the caller that includes an emergency call identifier (e.g., "911") and an emergency response center identifier. In this example, when the callee identifier matches the emergency call identifier, a routing message establishes the call, the routing message having a first portion including the emergency response center identifier and a second portion, which portion may include either a temporary or pre-assigned identifier associated with the caller, for example.

4.3 *Canadian Patent No. 2,681,984*, issued April 2, 2019, relates to similar subject-matter.

## 5. Allocating charges

- U.S. Patent Nos. 8,774,378 and 9,998,363 generally relate to allocating charges for communication services, as does Canadian Patent No. 2,916,220.
- None of these patents are currently asserted in litigation.

5.1 *U.S. Patent No. 8,774,378*, issued July 8, 2014, could apply, for example, to scenarios where a communication system operator and a reseller of communication services allocate charges incurred by a user. In this example, the process for attributing charges may involve determining a user cost based on a chargeable time and free time associated with the user, where the chargeable time is based on communication session time and a pre-defined billing pattern—then account balances for the user, reseller and system operator are updated accordingly.

5.2 *U.S. Patent No. 9,998,363*, issued June 12, 2018, relates to, among other things, attributing charges for communications services provided in a communications system for a communication session between a user's device and a destination device.

5.3 *Canadian Patent No. 2,916,220*, issued November 26, 2019, relates to, among other things, attributing charges for communications services, similarly to the counterpart U.S. patents described above.

## 6. Determining a time for permitting a communication session

6.1 *U.S. Patent No. 9,137,385*, issued September 15, 2015, generally relates to, among other things, determining a time for permitting a communication session to be conducted (e.g., a time-to-live or TTL). This patent has not been asserted in litigation.

6.2 *Canadian Patent No. 2,916,217*, issued April 16, 2019, which also relates to determining a time for permitting a communication session to be conducted (e.g., a time-to-live or TTL).

## 7. Uninterrupted transmission during endpoint changes

- U.S. Patent Nos. 8,675,566; 9,154,417; 10,021,729; European Patent No. 2,478,678; and Canadian Patent No. 2,812,174 all generally relate to, among other things, uninterrupted transmission during endpoint changes (e.g., station handoffs).
- None of these patents are currently asserted in litigation.

7.1 *U.S. Patent No. 8,675,566*, issued March 18, 2014, generally relates to, among other things, uninterrupted transmission of internet protocol (IP) transmissions during endpoint changes.

7.2 *U.S. Patent No. 9,154,417*, issued October 6, 2015, generally relates to, among other things, uninterrupted transmission, where in response to an IP transmission at a media relay, a session information record is processed in a certain manner.

7.3 U.S. Patent No. 10,021,729, issued July 10, 2018, generally relates to, among other things, facilitating an uninterrupted internet protocol (IP) communication session, involving internet protocol transmissions between a first entity and a second entity, during endpoint changes.

7.4 U.S. Patent No. 10,932,317, issued February 23, 2021, generally relates to facilitating uninterrupted transmission of an internet protocol (IP) communication session through a media relay during endpoint changes.

7.5 European Patent No. 2478678 and Canadian Patent No. 2812174 relate to subject matter similar to the aforesaid U.S. patents (*see above descriptions*).

*NOTE BENE: While the above generalized descriptions of the Company's patents have been provided for convenience, they are provided merely as a rough guide and are not intended to fully characterize the scope of the Company's legal rights or the status of the patents. Reviewers are therefore advised to conduct their own legal analysis of the Company's patents and not merely to rely on the above cursory descriptions. The content & status of the Company's patent portfolio is subject to change without notice.*