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UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

* * *

VOIP-PAL.COM, INC, a Nevada corporation, Plaintiff, v. APPLE, INC, a California corporation, Defendants.	CASE NO.: **CHART 1** **ASSERTED CLAIMS AND INFRINGEMENT CONDITIONS**

CHART 1

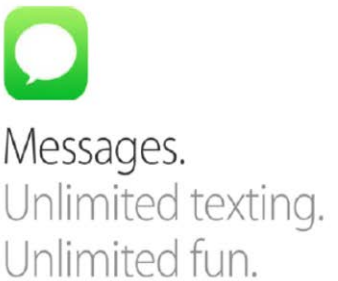
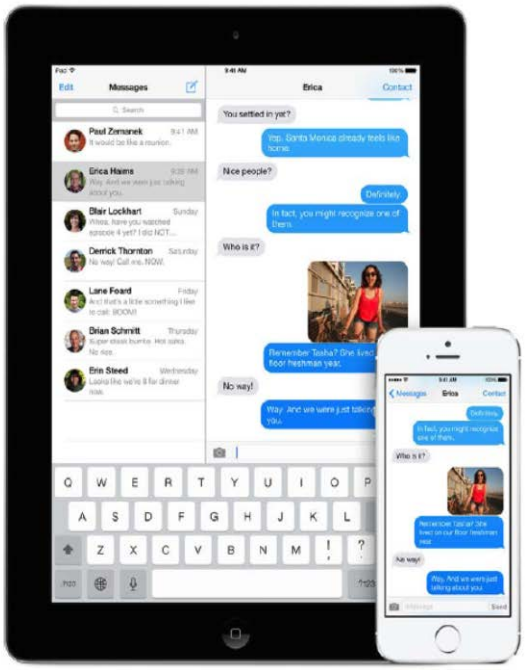
CHART SUPPORTING ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS CONCERNING U.S. PATENT NO. 8,542,815

Apple Inc. ("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. Apple practices certain claims of U.S. Patent No. 8,542,815 ("the '815 patent") as illustrated in the chart below.

The Apple Messaging System allows devices to initiate a communication between a

caller and a callee, which may be an Apple subscriber or a non-subscriber. A profile that includes calling attributes is used as part of the process that classifies a communication.

The following chart applies claims 1, 7, 27, 28, 34, 54, 72 – 74, 92, 93 and 111 of the '815 patent to the Apple Messaging System.

U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
1. [1p] A process for operating a call routing controller to facilitate communication between callers and callees in a system comprising a plurality of nodes with which callers and callees are associated, the process comprising:	The Apple Messaging System includes a call routing controller to facilitate communication between callers and callees in a system comprising a plurality of nodes with which callers and callees are associated. The Apple Messaging System offers messaging services through its Messages application, which is available for Apple desktop computers, laptops, tablets and mobile devices running OS X, iOS and watchOS operating systems.  Messages. Unlimited texting. Unlimited fun. If you're a texter, you'll love Messages on iPhone, iPad and iPod touch. Now they all come with iMessage, a service that's an even better kind of texting. Because it's free for you and anyone texting over Wi-Fi using an iOS device or Mac with iMessage. And it's unlimited.* So say as much as you want.  Apple Messages allows iPads and iPhones connected to a cellular network and/or Wi-Fi network to send messages including text, audio, video and images to other smartphone users. The Apple Messaging System uses a call routing controller that includes one or more Apple servers and/or the caller Apple device.

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U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
	The Apple Messaging System utilizes a plurality of nodes with which callers and callees are associated.
[1a] in response to initiation of a call by a calling subscriber, receiving a caller identifier and a callee identifier;	The Apple Messaging System receives a caller identifier and a callee identifier in response to initiation of a call by a calling subscriber. A message is initiated by the software application. Initiation of the message begins with the establishment of communication between Apple Messages and an Apple server. The message initiation includes the caller identifier, which includes the Apple ID or other identifier of the caller. The message initiation includes information associated with the recipient based on the contact list of the smartphone or entered by the user. The callee identifier includes a phone number associated with the callee.
[1b] locating a caller dialing profile comprising a username associated with the caller and a plurality of calling attributes associated with the caller;	The Apple Messaging System locates a caller dialing profile comprising a username associated with the caller and a plurality of calling attributes associated with the caller. A calling profile is located by an Apple server based on the Apple ID or other identifier of the caller, or are located on the Apple device. Calling attributes include information used in the classification of a call, such as settings stored on the caller device, information stored on an Apple server, and/or information obtained regarding the connection of the caller device to the network.
[1c] determining a match when at least one of said calling attributes matches at least a portion of said callee identifier;	The Apple Messaging System determines a match when at least one of said calling attributes matches at least a portion of said callee identifier. The Apple Messaging System matches at least one of the calling attributes and at least a portion of the callee identifier in processing the callee identifier.
[1d] classifying the call as a public network call when said match meets public network	The Apple Messaging System classifies the call as a public network call when the match meets public network classification criteria and classifying the call as a private network call when the match meets private network classification criteria. The Apple Messaging System allows messages to be sent using iMessage

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U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
classification criteria and classifying the call as a private network call when said match meets private network classification criteria;	and using SMS/MMS. Private network classification criteria represents routing the message using the iMessage system. Public network classification criteria represents routing the message using SMS/MMS. Calling attributes are used to establish a private and public network classification criteria. An example of calling attributes being used to establish private and public network classification criteria is the use of caller information to interpret the callee identifier. For example, if the callee identifier is an international phone number with international dialing digits (IDD) or national dialing digits (NDD) prepended, information associated with the registered location of the caller and/or the physical location of the caller is used to determine how to reformat the callee identifier before it can be determined if the callee is an Apple subscriber with iMessage available. Another example of calling attributes being used to establish private and public network classification criteria is the use of saved information on the caller device and/or saved information stored on Apple servers regarding recently sent messages. For example, if a message is being sent to a callee that has recently been sent a message using iMessage, the message may be classified as private based on the saved information. Similarly, if a message is being sent to a callee that has recently been sent a message using SMS/MMS, the message may be classified as public based on the saved information.
[1e] when the call is classified as a private network call, producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee;	The Apple Messaging System produces a private network routing message for receipt by a call controller that identifies an address, on the private network, associated with the callee, when the call is classified as a private network call. The iMessage protocol is based on the Apple Push Notification Service. If a user message is sent using iMessage, a message is sent to an Apple Push Notification server which communicates with the callee's device. Apple Push Notification Service Apple Push Notification service (APNs) is the centerpiece of the remote notifications feature. It is a robust and highly efficient service for propagating information to iOS (and, indirectly, watchOS), tvOS, and OS X devices. Each device establishes an accredited and encrypted IP connection with APNs and receives notifications over this persistent connection. If a notification for an app arrives when that app is not running, the device alerts the user that the app has data waiting for it. The Messages application indicates that a message is sent using iMessage by filling in the text bubble of the message with the color blue.

U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
[1f] when the call is classified as a public network call, producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.	The Apple Messaging System produces a public network routing message for receipt by the call controller that identifies a gateway to the public network, when the call is classified as a public network call. If a message is sent using SMS/MMS, the device running the Messages application delivers the message using a gateway associated with the cellular network. The Messages application indicates that a message is sent to a non-Apple subscriber by filling in the text bubble of the message with the color green.
7. The process of claim 1 further comprising formatting said callee identifier into a pre-defined digit format to produce a re-formatted callee identifier.	The Apple Messaging System formats said callee identifier into a pre-defined digit format to produce a re-formatted callee identifier.
27. [27p] A non-transitory computer readable medium encoded with codes for directing a processor to execute a method of operating a call routing controller to facilitate communication between callers and callees in a	The Apple Messaging System includes a non-transitory computer readable medium encoded with codes for directing a processor to execute a method of operating a call routing controller to facilitate communication between callers and callees in a system comprising a plurality of nodes with which callers and callees are associated. See claim element [1p].

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Disputed Claim	**Accused Device/Instrumentality**
system comprising a plurality of nodes with which callers and callees are associated, the method comprising:	
[27a] in response to initiation of a call by a calling subscriber, receiving a caller identifier and a callee identifier;	See claim element [1a].
[27b] locating a caller dialing profile comprising a username associated with the caller and a plurality of calling attributes associated with the caller;	See claim element [1b].
[27c] determining a match when at least one of said calling attributes matches at least a portion of said callee identifier;	See claim element [1c].
[27d] classifying the call as a public network call when said match meets	See claim element [1d].

U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
public network classification criteria and classifying the call as a private network call when said match meets private network classification criteria;	
[27e] when the call is classified as a private network call, producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee; and	See claim element [1e].
[27f] when the call is classified as a public network call, producing a public network routing message for receipt by a call controller, said public network routing message identifying a gateway to the	See claim element [1f].

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Disputed Claim	**Accused Device/Instrumentality**
public network.	
28. [28p] A call routing apparatus for facilitating communications between callers and callees in a system comprising a plurality of nodes with which callers and callees are associated, the apparatus comprising:	The Apple Messaging System includes a call routing apparatus for facilitating communications between callers and callees in a system comprising a plurality of nodes with which callers and callees are associated. See claim element [1p].
[28a] receiving means for receiving a caller identifier and a callee identifier, in response to initiation of a call by a calling subscriber;	See claim element [1a].
[28b] means for locating a caller dialing profile comprising a username associated with the caller and a plurality of calling attributes associated with the caller;	See claim element [1b].
[28c] means for determining a match when at least one of said	See claim element [1c].

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Disputed Claim	**Accused Device/Instrumentality**
calling attributes matches at least a portion of said callee identifier;	
[28d] means for classifying the call as a public network call when said match meets public network classification criteria;	See claim element [1d].
[28e] means for classifying the call as a private network call when said match meets private network classification criteria;	See claim element [1d].
[28f] means for producing a private network routing message for receipt by a call controller, when the call is classified as a private network call, said private network routing message identifying an address, on the private network, associated with the callee; and	See claim element [1e].
[28g] means for	See claim element [1f].

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Disputed Claim	**Accused Device/Instrumentality**
producing a public network routing message for receipt by a call controller, when the call is classified as a public network call, said public network routing message identifying a gateway to the public network.	
34. The apparatus of claim 28 further comprising formatting means for formatting said callee identifier into a pre-defined digit format to produce a re-formatted callee identifier.	See claim 7.
54. [54p] A process for operating a call routing controller to establish a call between a caller and a callee in a communication system, the process comprising:	The Apple Messaging System and the carrier system includes a call routing controller to establish a call between a caller and a callee in a communication system. See claim element [1p].
[54a] in response	See claim element [1b].

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Disputed Claim	**Accused Device/Instrumentality**
to initiation of a call by a calling subscriber, locating a caller dialing profile comprising a plurality of calling attributes associated with the caller; and	
[54b] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee match and when the match meets a private network classification criterion,	See claim elements [1c], [1d].
[54c] producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on a private network, the address being associated with the callee; and	See claim element [1e].
[54d] when at least one of said calling attributes and said at least	See claim elements [1c], [1d].

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Disputed Claim	**Accused Device/Instrumentality**
said portion of said callee identifier associated with the callee match and when the match meets a public network classification criterion,	
[54e] producing a public network routing message for receipt by a call controller, said public network routing message identifying a gateway to a public network.	See claim element [1f].
72. The process of claim 54 further comprising causing the private network routing message or the public network routing message to be communicated to a call controller to effect routing of the call.	The Apple Messaging System causes causing the private network routing message or the public network routing message to be communicated to a call controller to effect routing of the call.
73. A non-transitory computer readable medium encoded with codes for	The Apple Messaging System include a non-transitory computer readable medium encoded with codes for directing a processor to execute the method of claim 54. See claim elements [54p], [54a], [54b], [54c], [54d] and [54e].

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Disputed Claim	**Accused Device/Instrumentality**
directing a processor to execute the method of claim 54.	
74. [74p] A call routing controller apparatus for establishing a call between a caller and a callee in a communication system, the apparatus comprising:	The Apple Messaging System and the carrier system include a call routing controller apparatus for establishing a call between a caller and a callee in a communication system. See claim clement [1p].
[74a] a processor operably configured to:	The Apple Messaging System and the carrier system consists of multiple machines with processors at multiple Apple locations, including servers and gateways accessible over local and wide area networks.
[74b] access a database of caller dialing profiles wherein each dialing profile associates a plurality of calling attributes with a respective subscriber, to locate a dialing profile associated with the caller, in response to initiation of a call by a calling subscriber; and	The Apple Messaging System and the carrier system includes a database of caller dialing profiles, each associating a plurality of calling attributes with a respective subscriber, to locate a dialing profile associated with the caller, in response to initiation of a call by a calling subscriber. See claim elements [1a], [1b].
[74c] produce a private network	See claim element [1e].

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Disputed Claim	**Accused Device/Instrumentality**
routing message for receipt by a call controller, said private network routing message identifying an address, on a private network, through which the call is to be routed,	
[74d] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee match and when the match meets a private network classification criterion, the address being associated with the callee; and	See claim elements [1c], [1d].
[74e] produce a public network routing message for receipt by a call controller, said public network routing message identifying a gateway to a public network,	See claim element [1f].
[74f] when at least one of said	See claim elements [1c], [1d].

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Disputed Claim	**Accused Device/Instrumentality**
calling attributes and said at least said portion of said callee identifier associated with the callee match and when the match meets a public network classification criterion.	
92. The apparatus of claim 74 wherein said processor is further operably configured to cause the private network routing message or the public network routing message to be communicated to a call controller to effect routing of the call.	The Apple Messaging System causes the private network routing message or the public network routing message to be communicated to a call controller to effect routing of the call.
93. [93p] A call routing controller apparatus for establishing a call between a caller and a callee in a communication system, the apparatus comprising:	The Apple Messaging System establishes a call between a caller and a callee in a communication system. See claim clement [1p].
[93a] means for	See claim element [74b].

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Disputed Claim	**Accused Device/Instrumentality**
accessing a database of caller dialing profiles wherein each dialing profile associates a plurality of calling attributes with a respective subscriber, to locate a dialing profile associated with the caller, in response to initiation of a call by a calling subscriber; and	
[93b] means for producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on a private network, through which the call is to be routed,	See claim element [74c].
[93c] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee match and when the	See claim element [74d].

U.S. Patent No. 8,542,815	
Disputed Claim	**Accused Device/Instrumentality**
match meets a private network classification criterion, the address being associated with the callee; and	
[93d] means for producing a public network routing message for receipt by a call controller, said public network routing message identifying a gateway to a public network	See claim element [74e].
[93e] when at least one of said calling attributes and said at least said portion of said callee identifier associated with the callee match and when the match meets a public network classification criterion.	See claim element [74f]
111. The apparatus of claim 93 further comprising means for causing the private network routing message	The Apple Messaging System comprises means for causing the private network routing message or the public network routing message to be communicated to a call controller to effect routing of the call.

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or the public network routing message to be communicated to a call controller to effect routing of the call.	

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EXHIBIT B

ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS CONCERNING THE '005 PATENT

A. Asserted Claim No. 3 regarding iMessage (the '005 patent)

Apple Inc. ("Apple") supports and operates iMessage, an instant messaging service supported by the Messages application that allows smartphone and desktop users to send messages including text, images, video and audio to other users. The Messages software application runs on Apple desktop computers, laptops, tablets and mobile devices running OS X, iOS and watchOS operating systems. . Apple practices directly and/or indirectly infringe certain claims of the '005 patent by utilizing a caller dialing profile comprising a plurality of calling attributes to form network classification criteria.

In particular, devices running the Messages application initiate a communication between a caller and a callee, and the callee may be an Apple subscriber or a non-subscriber. The communication is sent using iMessage in the case that the callee is an Apple subscriber, and utilizes SMS/MMS if the user is not an Apple user or if iMessage is not available.

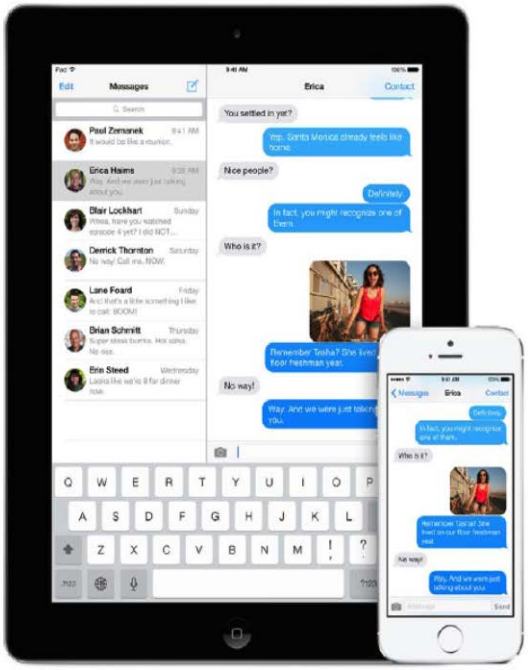
B. Asserted Claim No. 4 regarding Wifi Calling (the '005 patent)

Apple also supports "Wi-Fi Calling" on desktop computers, laptops, tablets and mobile devices In the case of Wi-Fi Calling, an Apple device initiates a call between a caller and a callee using carrier based voice over IP ("VoIP") system and the callee may be a subscriber of the carrier or a non-subscriber. A caller profile that includes calling attributes is used as part of the process that routes the message or the call from the subscriber to either another subscriber or a non-subscriber. . Apple practices directly and/or indirectly infringe certain claims of the '005 patent" by utilizing a caller dialing profile comprising a plurality of calling attributes to form network classification criteria.

C. Introduction to the '005 Claim Chart

As explained in the chart below, the use of calling attributes is needed for one or more of the following purposes: (1) local interpretation of the callee identifier; (2) handling inactive,

suspended or blocked accounts; (3) handling customer billing authorization. This chart applies claims 1, 26, 74 and 94 of the '005 patent to Apple products and services. These claims should be understood to be exemplary and not exhaustive of all claims of the '005 patent that are practiced by Apple.

U.S. Patent No. 9,179,005	
Disputed Claim	**Accused Device/Instrumentality**
1. [1p] A process for producing a routing message for routing communications between a caller and a callee in a communication system, the process comprising:	The Apple system produces a routing message for routing communications between a caller and a callee in a communication system. Apple offers messaging services through its Messages application, which is available for Apple desktop computers, laptops, tablets and mobile devices running OS X, iOS and watchOS operating systems. Messages. Unlimited texting. Unlimited fun. If you're a texter, you'll love Messages on iPhone, iPad and iPod touch. Now they all come with iMessage, a service that's an even better kind of texting. Because it's free for you and anyone texting over Wi-Fi using an iOS device or Mac with iMessage. And it's unlimited.* So say as much as you want.  Apple Messages allows iPads and iPhones connected to a cellular network and/or Wi-Fi network to send messages including text, audio, video and images to other smartphone users, including both Apple subscribers and to non-subscribers. Apple supports Wi-Fi Calling on desktop, tablet and mobile devices including iPhone and Apple Watch devices.

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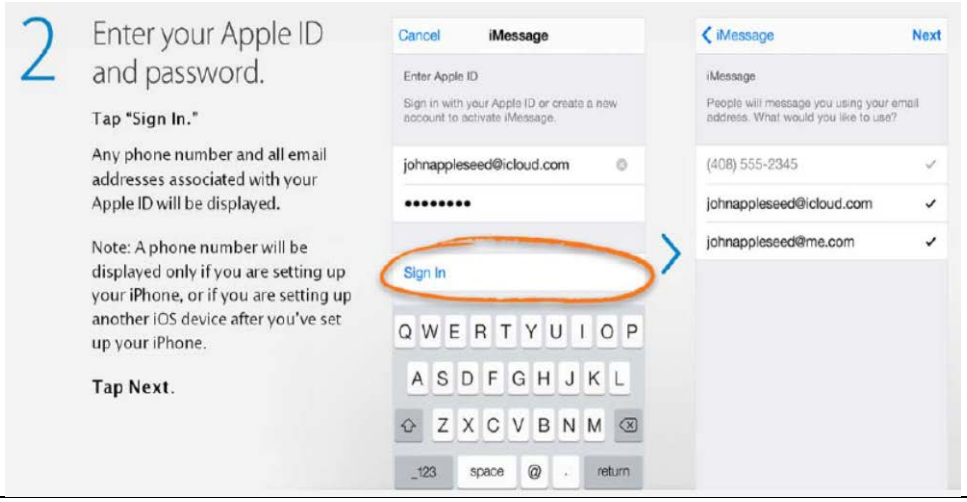
U.S. Patent No. 9,179,005	
Disputed Claim	**Accused Device/Instrumentality**
	Make a call with Wi-Fi Calling With Wi-Fi Calling, you can place a phone call in an area with little or no cellular coverage. Learn how to make a voice call using Wi-Fi Calling.  Wi-Fi Calling is a carrier-based system that allows Mac desktop computers, iPads, iPhones and Apple Watches connected to a Wi-Fi network to place calls to other users, including both carrier subscribers and to non-subscribers.
[1a] using a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with the caller;	The Apple system uses a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with the caller. In Apple Messages, a message or a call can be initiated by the software application. Initiation of the message begins with the establishment of communication between Apple Messages and an Apple server. The message initiation includes the caller identifier, which includes the Apple ID of the caller. 

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U.S. Patent No. 9,179,005	
Disputed Claim	**Accused Device/Instrumentality**
	Calling attributes are looked up by the Apple server based on the Apple ID of the caller. Calling attributes also include information, such as settings, stored on the iPhone associated with the Apple Messages application. In the case of Wi-Fi Calling, a call is initiated by the Apple device beginning with the establishment of communication between the device and a controller operated by the carrier. The message initiation includes the phone number of the caller. Place a Wi-Fi call from your iPhone Turn on Wi-Fi calling in Settings > Phone > Wi-Fi Calling. You might need to enter or confirm your address for emergency services.* If Wi-Fi Calling is available, you'll see Wi-Fi after your carrier name in the status bar. Then your calls will use Wi-Fi Calling. Calling attributes are used as part of the process that classifies the communication as a public or private network communication. For example, Apple uses calling attributes for one or more of the following reasons: 1. Local interpretation of the callee identifier. In particular, the callee identifier may be the dialing string for the VoIP or Messages customer and such dialing string may need to be interpreted according to the location from which the caller is registered, for example to handle international, national and local dialing patterns. Certain locations permit abbreviated dialing for special services. For example, 911 for emergency services, 411 for directory services and 311 for municipal services. In these cases, while the callee identifier is the three digit dialing string, the actual number to which the call or message should be routed to depends on the location of the caller. 2. Inactive, suspended or blocked accounts. In certain cases the status of the caller account must be consulted before the call or message can be routed. The caller account could be closed, blocked or banned preventing an outgoing communication. The caller account could also be set up to block certain outgoing calls, such as international calls or toll destinations (such as 976 prefixes or premium messaging services (PMS)). The caller account could also be set up to block calls to specific numbers. 3. Customer billing authorization. In cases where a communication involves a purchase, the caller account needs to be consulted to validate the customer credit card, to determine if a purchase limit has been reached,

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Disputed Claim	**Accused Device/Instrumentality**
	and/or to determine if purchases have been blocked altogether.
[1b] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria,	The Apple system determines if at least one of the calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria. As noted above, initiation of the message or call begins with the establishment of communication between Apple Messages and an Apple server, or the establishment of communication between the Apple device and the carrier controller. The message or call initiation includes information associated with the recipient based on the contact list of the smartphone. The callee identifier includes information from the contact entry for the recipient, including the phone number associated with that recipient. The Apple system allows calls and messages to other Apple subscribers and to non-subscribers. Private network routing criteria represents routing to another Apple subscriber in the case of Apple Messages, and represents routing to another subscriber of the carrier in the case of Wi-Fi Calling. Calling attributes are used for a number of different purposes to establish a private network classification criteria. 1. Local interpretation of the callee identifier. A private network classification would mean that the callee is a subscriber after the dialing string has been processed according to the regional interpretation of dialing digits. For example an "Emergency Address" is needed in the case of 911 calls that are handled using Wi-Fi Calling. * When cellular service is available, your iPhone uses it for emergency calls. If you turned on Wi-Fi Calling and cellular service isn't available, emergency calls might use Wi-Fi calling. Emergency calls might send your device's location information to help emergency workers find you, regardless of whether you turn on Location Services. 

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	2. Inactive, suspended or blocked accounts. A private network classification would mean that the callee is a subscriber and the account of the caller is active and/or that the caller account has not blocked communication with the callee. If your Apple ID is locked If you or someone else enters your password, security questions, or other account information incorrectly too many times, your Apple ID automatically locks to protect your security and you can't sign in to any Apple services. You can unlock your Apple ID after you verify your identity. If your Apple ID is locked for security reasons, you might see one of these alerts: • "This Apple ID has been disabled for security reasons" • "You can't sign in because your account was disabled for security reasons" • "This Apple ID has been locked for security reasons" 3. Customer billing authorization. A private network classification would mean that the callee is a subscriber and the caller account has sufficient authorization to process the charge associated with the communication.
[1c] producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee; and	The Apple system produces a private network routing message for receipt by a call controller which identifies an address on the private network associated with the callee. If the callee is an Apple subscriber and if iMessages are available on the callee phone, internal information is used to determine how to route the message to the callee. The callee could be connected to a local Apple node or may be accessible over a wide area network on another Apple node. In the case of Wi-Fi Calling, the carrier operated controller routes the call to its own subscriber.
[1d] when at least one of said calling attributes and at least a portion of said callee identifier meet a public	The Apple system determines if at least one of the calling attributes and at least a portion of the callee identifier meet public network classification criteria. The Apple system allows calls to other Apple subscribers and to non-subscribers and Wi-Fi Calling allows calls to other carrier subscribers and to non-subscribers. Public network routing criteria represents routing

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network classification criterion,	between a subscriber and a non-subscriber. Calling attributes are used for a number of different purposes to establish a public network classification criteria. 1. Local interpretation of the callee identifier. A public network classification would mean that the callee is a non-subscriber after the dialing string has been processed according to the regional interpretation of dialing digits. For example an "Emergency Address" is needed in the case of 911 calls that are handled using Wi-Fi Calling. * When cellular service is available, your iPhone uses it for emergency calls. If you turned on Wi-Fi Calling and cellular service isn't available, emergency calls might use Wi-Fi calling. Emergency calls might send your device's location information to help emergency workers find you, regardless of whether you turn on Location Services.  2. Inactive, suspended or blocked accounts. A public network classification would mean that the callee is a non-subscriber and the account of the caller is active and/or that the caller account has not blocked communication with the callee.

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	 3. Customer billing authorization. A public network classification would mean that the callee is a non-subscriber and the caller account has sufficient authorization to process the charge associated with the communication.
[1e] producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.	The Apple system produces a public network routing message for receipt by a call controller which identifies a gateway to the public network. If the callee is a non-subscriber, a PSTN gateway or a SMS/MMS gateway is selected for connection and this information is relayed to the callee to set up the media stream or to deliver the message.
26. [26p] A call routing controller apparatus for producing a routing message for routing communications between a caller and a callee in a communication system, the apparatus comprising:	The Apple system includes a call routing controller apparatus that produces a routing message for routing communications between a caller and a callee in a communication system. In the case of Apple Messages, the caller is an Apple subscriber and the callee may be either an Apple subscriber or a non-subscriber, in the case of Wi-Fi Calling, the caller is a carrier subscriber and the callee may be either a carrier subscriber or a non-subscriber. Messages and calls are set up by a call controller operated by Apple or the carrier that produces a routing message. See claim element [1p].

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[26a] at least one processor operably configured to:	The Apple system and the carrier system consists of multiple machines with processors at multiple Apple locations, including servers and gateways accessible over local and wide area networks.
[26b] use a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with the caller;	See claim element [1a].
[26c] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria,	See claim element [1b].
[26d] produce a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee; and	See claim element [1c].

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[26e] when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion,	See claim element [1d].
[26f] produce a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.	See claim element [1e].
74. [74p] A method of routing communications in a packet switched network in which a first participant identifier is associated with a first participant and a second participant identifier is associated with a second participant in a communication, the method comprising:	The Apple system and the carrier system routes communications in a packet switched network in which a first participant identifier is associated with a first participant and a second participant identifier is associated with a second participant in a communication. Apple offers messaging services through its Messages application, which is available for Apple desktop computers, laptops, tablets and mobile devices running OS X, iOS and watchOS operating systems.

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	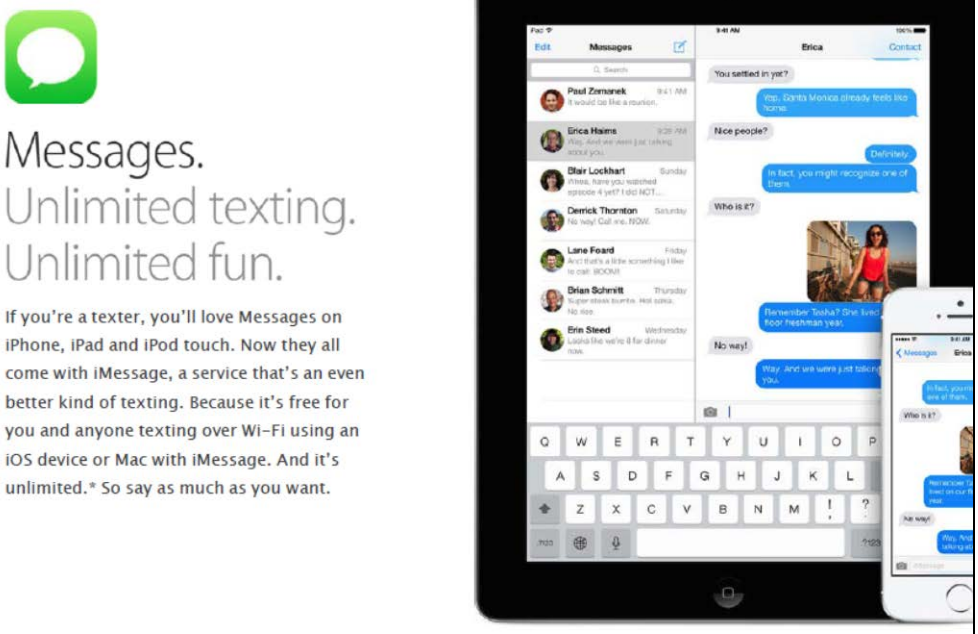 Apple Messages allows iPads and iPhones connected to a cellular network and/or Wi-Fi network to send messages including text, audio, video and images to other smartphone users, including both Apple subscribers and to non-subscribers. Apple supports Wi-Fi Calling on desktop, tablet and mobile devices including iPhone and Apple Watch devices. 

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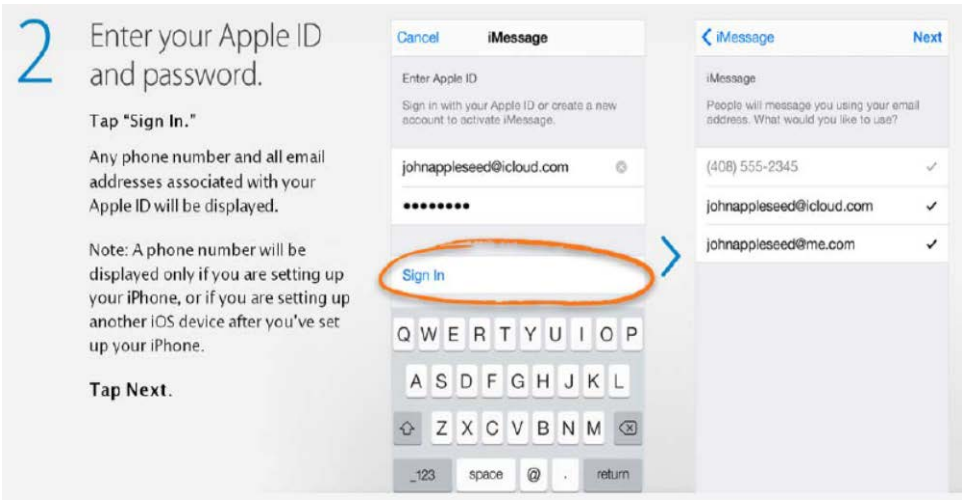
	Wi-Fi Calling is a carrier-based system that allows Mac desktop computers, iPads, iPhones and Apple Watches connected to a Wi-Fi network to place calls to other users, including both carrier subscribers and to non-subscribers.
[74a] after the first participant has accessed the packet switched network to initiate the communication, using the first participant identifier to locate a first participant profile comprising a plurality of attributes associated with the first participant;	After the first participant has accessed the packet switched network to initiate the communication, uses the first participant identifier is used to locate a first participant profile comprising a plurality of attributes associated with the first participant. In Apple Messages, a message or a call can be initiated by the software application. Initiation of the message begins with the establishment of communication between Apple Messages and an Apple server. The message initiation includes the caller identifier, which includes the Apple ID of the caller.  Calling attributes are looked up by the Apple server based on the Apple ID of the caller. Calling attributes also include information, such as settings, stored on the iPhone associated with the Apple Messages application. In the case of Wi-Fi Calling, a call is initiated by the Apple device beginning with the establishment of communication between the device and a controller operated by the carrier. The message initiation includes the phone number of the caller.

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	Place a Wi-Fi call from your iPhone Turn on Wi-Fi calling in Settings > Phone > Wi-Fi Calling. You might need to enter or confirm your address for emergency services.* If Wi-Fi Calling is available, you'll see Wi-Fi after your carrier name in the status bar. Then your calls will use Wi-Fi Calling. Calling attributes are used as part of the process that classifies the communication as a public or private network communication. For example, Apple uses calling attributes for one or more of the following reasons: 1. Local interpretation of the callee identifier. In particular, the callee identifier may be the dialing string for the VoIP or Messages customer and such dialing string may need to be interpreted according to the location from which the caller is registered, for example to handle international, national and local dialing patterns. Certain locations permit abbreviated dialing for special services. For example, 911 for emergency services, 411 for directory services and 311 for municipal services. In these cases, while the callee identifier is the three digit dialing string, the actual number to which the call or message should be routed to depends on the location of the caller. 2. Inactive, suspended or blocked accounts. In certain cases the status of the caller account must be consulted before the call or message can be routed. The caller account could be closed, blocked or banned preventing an outgoing communication. The caller account could also be set up to block certain outgoing calls, such as international calls or toll destinations (such as 976 prefixes or premium messaging services (PMS)). The caller account could also be set up to block calls to specific numbers. 3. Customer billing authorization. In cases where a communication involves a purchase, the caller account needs to be consulted to validate the customer credit card, to determine if a purchase limit has been reached, and/or to determine if purchases have been blocked altogether.
[74b] when at least one of the first participant attributes and at least a portion of the second participant identifier meet a	The Apple system determines if at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion. As noted above, initiation of the message or call begins with the establishment of communication between Apple Messages and an Apple server, or the establishment of communication between the Apple device and the carrier controller. The message or call initiation includes

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first network classification criterion,	information associated with the recipient based on the contact list of the smartphone. The callee identifier includes information from the contact entry for the recipient, including the phone number associated with that recipient. The Apple system allows calls and messages to other Apple subscribers and to non-subscribers. Private network routing criteria represents routing to another Apple subscriber in the case of Apple Messages, and represents routing to another subscriber of the carrier in the case of Wi-Fi Calling. Calling attributes are used for a number of different purposes to establish a private network classification criteria. <u>1. Local interpretation of the callee identifier.</u> A private network classification would mean that the callee is a subscriber after the dialing string has been processed according to the regional interpretation of dialing digits. For example an "Emergency Address" is needed in the case of 911 calls that are handled using Wi-Fi Calling. * When cellular service is available, your iPhone uses it for emergency calls. If you turned on Wi-Fi Calling and cellular service isn't available, emergency calls might use Wi-Fi calling. Emergency calls might send your device's location information to help emergency workers find you, regardless of whether you turn on Location Services.  <u>2. Inactive, suspended or blocked accounts.</u> A private network classification would mean that the callee is a subscriber and the account of the caller is active and/or that the caller account has not blocked communication with the callee.

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	If your Apple ID is locked If you or someone else enters your password, security questions, or other account information incorrectly too many times, your Apple ID automatically locks to protect your security and you can't sign in to any Apple services. You can unlock your Apple ID after you verify your identity. If your Apple ID is locked for security reasons, you might see one of these alerts: • "This Apple ID has been disabled for security reasons" • "You can't sign in because your account was disabled for security reasons" • "This Apple ID has been locked for security reasons" <u>3. Customer billing authorization.</u> A private network classification would mean that the callee is a subscriber and the caller account has sufficient authorization to process the charge associated with the communication.
[74c] producing a first network routing message for receipt by a controller, the first network routing message identifying an address in a first portion of the packet switched network, the address being associated with the second participant, the first portion being controlled by an entity; and	The Apple system produces a first network routing message for receipt by a controller which identifies an address, associated with the second participant, in a first portion of the packet switched network, which is controlled by an entity. If the callee is an Apple subscriber and if iMessages are available on the callee phone, internal information is used to determine how to route the message to the callee. The callee could be connected to a local Apple node or may be accessible over a wide area network on another Apple node. In the case of Wi-Fi Calling, the carrier operated controller routes the call to its own subscriber.
[74d] when at least one of the first participant attributes and at least a portion of the second participant	The Apple system determines if at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion. The Apple system allows calls to other Apple subscribers and to non-subscribers and Wi-Fi Calling allows calls to other carrier subscribers and to non-subscribers. Public network routing criteria represents routing

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identifier meet a second network classification criterion,	between a subscriber and a non-subscriber. Calling attributes are used for a number of different purposes to establish a public network classification criteria. 1. Local interpretation of the callee identifier. A public network classification would mean that the callee is a non-subscriber after the dialing string has been processed according to the regional interpretation of dialing digits. For example an "Emergency Address" is needed in the case of 911 calls that are handled using Wi-Fi Calling. * When cellular service is available, your iPhone uses it for emergency calls. If you turned on Wi-Fi Calling and cellular service isn't available, emergency calls might use Wi-Fi calling. Emergency calls might send your device's location information to help emergency workers find you, regardless of whether you turn on Location Services.  2. Inactive, suspended or blocked accounts. A public network classification would mean that the callee is a non-subscriber and the account of the caller is active and/or that the caller account has not blocked communication with the callee.

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	 3. Customer billing authorization. A public network classification would mean that the callee is a non-subscriber and the caller account has sufficient authorization to process the charge associated with the communication.
[74e] producing a second network routing message for receipt by the controller, the second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.	The Apple system produces a second network routing message for receipt by the controller which identifies an address in a second portion of the packet switched network, which is not controlled by the entity. If the callee is a non-subscriber, a PSTN gateway or a SMS/MMS gateway is selected for connection and this information is relayed to the callee to set up the media stream or to deliver the message.
94. [94p] A system for routing communications in a packet switched network in which a first participant in a	The Apple system routes communications in a packet switched network in which a first participant in a communication has an associated first participant identifier and a second participant in the communication has an associated second participant identifier. The first participant is an Apple subscriber and/or a carrier subscriber and has an associated first participant identifier, which includes an Apple ID and/or a phone number, and the second participant may be either an Apple subscriber or carrier subscriber or a non-subscriber, and has an associated

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communication has an associated first participant identifier and a second participant in the communication has an associated second participant identifier, the system comprising:	second participant identifier, which includes a phone number. See claim element [74p].
[94a] a controller comprising: a processor operably configured to access a memory, wherein the processor is configured to:	The Apple system and the carrier system consists of multiple machines with processors, some of which constitute controllers that communicate with the first participant when the call or message is initiated.
[94b] after the first participant has accessed the packet switched network to initiate the communication, locate a first participant profile in the memory using the first participant identifier, the first participant profile comprising a plurality of attributes	See claim element [74a]

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associated with the first participant;	
[94c] produce a first network routing message when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion,	See claim element [74b]
[94d] the first network routing message identifying an address in a first portion of the packet switched network, the address being associated with the second participant, the first portion being controlled by an entity; and	See claim element [74c]
[94e] produce a second network routing message when at least one of the first participant attributes and at least a portion of the second	See claim element [74d]

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participant identifier meet a second network classification criterion,	
[94f] the second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.	See claim element [74e]

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