I. Comparison of Petition at pp. 15-17 (Ground 1) With the Petition at pp. 39-41 (Ground 2)

Petition at pp. 15-17 (Chu '684 + Chu '366 argument)	**Petition at pp. 39-41 (Chu '684 + Chen argument)**
There is significant overlap between Chu '684 and Chu '366. Both references teach telecommunications systems in which VoIP subscribers can place calls to a customer on the public PSTN. *Compare* **Ex. 1006**, *Chu '684* at 8:65-9:1 ("At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN.") *with* **Ex. 1007**, *Chu '366* at 14:30-33 ("[T]here is shown a system for communications between a computing environment **202** including the application program according to the present system and a PSTN telephone **216.**").	There is significant overlap between Chu '684 and ~~Chu '366~~Chen. Both references teach telecommunications systems in which VoIP subscribers can place calls to a customer on the public PSTN. *Compare* **Ex. 1006**, *Chu '684* at 8:65-9:1 ("At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN.") *with* **Ex. ~~1007, *Chu '366* at 14:30-33 ("[T]here is shown~~1008**, *Chen* at Fig. 5 (Illustrating a ~~system for communications between a computing environment **202** including the application program according to the present system~~VoIP customer "SIP Phone," external number Translator, "PSTN Gateway, and ~~a~~ PSTN ~~telephone **216."**~~Switch).
Both references also teach a process in which dialed digits and caller attributes are used to determine where the call should be routed. *Compare* **Ex. 1006**, *Chu '684* at 8:65-9:1 ("At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN.") *with* **Ex. 1007**, *Chu '366* at Fig. 6.	Both references also teach a process in which dialed digits and caller attributes are used to determine where the call should be routed. *Compare* **Ex. 1006**, *Chu '684* at 8:65-9:1 ("At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN.") *with* **Ex. ~~1007, *Chu '366*~~1008**, *Chen* at Fig. 6.

Finally, both references expressly reference E.164 as an international standard dial plan. *Compare* **Ex. 1006**, *Chu '684* at 3:59-61 ("[E]ach IP phone [may be] assigned its own E.164 number (the international standard dial plan) and receiving calls from the PSTN directly.") *with* **Ex. 1007**, *Chu '366* at 1:18-20 ("E.164 [ ] provides a uniform means for identifying any telephone number in the world to any telephony user in the world.").	Finally, both references expressly reference E.164 as an international standard dial plan. *Compare* **Ex. 1006**, *Chu '684* at 3:59-61 ("[E]ach IP phone [may be] assigned its own E.164 number (the international standard dial plan) and receiving calls from the PSTN directly.") *with* **Ex. ~~1007, Chu '366~~1008**, *Chen* at ~~1:18-20~~¶ 006 ("E.164 ~~[ ] provides a uniform means for identifying any telephone number in the world to any telephony user in the world~~is an ITU-T (International Telecommunication Union Telecommunication Standardization Sector) recommendation that defines the international public telecommunication numbering plan.").
It would have been obvious to one of skill in the art to modify the system described by *Chu '684* with the specific dialed digit reformatting teachings of *Chu '366*. Given that the system of *Chu '684* already contains all the infrastructure needed to support such reformatting, the modification to *Chu '684* would be straightforward, not requiring undue experimentation, and would produce predictable results. Upon reading the disclosure of *Chu '684*, a person of ordinary skill in the art would have recognized that allowing users to place calls as if they were dialing from a standard PSTN phone would be desirable, creating a system capable of supporting a more intuitive and user-friendly interface. *See* **Ex. 1009**, *Houh Decl.* at ¶¶ 35-39.	It would have been obvious to one of skill in the art to modify the system described by *Chu '684* with the specific dialed digit reformatting teachings of ~~*Chu '366*~~*Chen*. Given that the system of *Chu '684* already contains all the infrastructure needed to support such reformatting, the modification to *Chu '684* would be straightforward, not requiring undue experimentation, and would produce predictable results. Upon reading the disclosure of *Chu '684*, a person of ordinary skill in the art would have recognized that allowing users to place calls as if they were dialing from a standard PSTN phone would be desirable, creating a system capable of supporting a more intuitive and user-friendly interface. *See* **Ex. 1009**, *Houh Decl.* at ¶¶ ~~35-39~~40-44.

One of ordinary skill would thus have appreciated that these improvements to *Chu '684* could be achieved by merely programming the system of *Chu '684* to analyze the dialed digits and reformat as necessary using caller attributes such as national and area code. Such modifications are simply a combination of the system of *Chu '684* with elements of *Chu '366* that would have yielded predictable results without requiring undue experimentation. *Id.* at ¶ 38. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense to combine *Chu '684* with the number reformatting of *Chu '366*. *Id*. Therefore, the Challenged Claims are unpatentable under §103(a) as obvious over *Chu '684* in view of *Chu '366*, as shown in the charts below.	One of ordinary skill would thus have appreciated that these improvements to *Chu '684* could be achieved by merely programming the system of *Chu '684* to analyze the dialed digits and reformat as necessary using caller attributes such as national and area code. Such modifications are simply a combination of the system of *Chu '684* with elements of ~~*Chu '366*~~*Chen* that would have yielded predictable results without requiring undue experimentation. *Id.* at ¶ ~~38~~43. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense to combine *Chu '684* with the number reformatting of ~~*Chu '366*~~*Chen*. *Id.*. Therefore, the Challenged Claims are unpatentable under §103(a) as obvious over *Chu '684* in view of ~~*Chu '366*~~*Chen*, as shown in the charts below.

II. Comparison of Petition at pp. 17-36 (Ground 1) With the Petition at pp. 41-60 (Ground 2)

Right-hand column compares:

*the claim chart for Chu '684 + **Chu '366** (Ground 1) **with***
*the claim chart for Chu '684 + **Chen** (Ground 2).*

Red strikethrough represents text in Ground 1, but not in Ground 2.
Blue underline represents text in Ground 2, but not in Ground 1.
[underlining in original omitted]

US Patent 9,179,005	**Obvious over Chu '684 (Ex. 1003) in view of ~~Chu '366~~Chen (Ex. ~~1004~~1005)**
1. A process for producing a routing message for routing communications between a caller and a callee in a communication system, the process comprising:	*Chu '684 teaches producing a routing message for routing telephone calls ("communications") between callers and callees in a telecommunications system.* Chu '684 describes "a novel method for establishing and managing voice call traffic in an VoIP IP virtual private network" including "determining one or more IP addresses to egress the communication from the originating point to the terminating point." **Ex. 1006**, *Chu '684* at 2:34-44. "An apparatus for IP-based VPN communications includes at least one soft-switch and at least one packet switch having an interface to said at least one soft-switch. The packet switch has a VPN processing module for selectively establishing a VPN based on a selection of originating and terminating IP addresses of voice calls passed to the at least one soft-switch and at least one packet switch. . . . The apparatus may further include a PSTN gateway connected to a gateway soft-switch and said at least one soft-switch for processing "off-net" calls." *Id*. at 2:51- 64; *see also id*. at 1:9-13.
(a) using a caller identifier associated with the caller to locate a caller dialing profile comprising a	*Chu '684 teaches using a subscriber's identifying information (e.g., the subscriber's E.164 telephone number) ("a caller identifier") to access a dial plan that includes calling attributes of the subscriber.*

plurality of calling attributes associated with the caller;	"The soft-switch is the intelligence of the system. It contains all the information regarding the subscribers' VPNs. For example, it keeps track of the VPN that a location belongs to, the dial plans of the subscribers, the VPN identifier for an VPN (or a particular interface) and the like." *Id*. at 4:59-63. "[U]pon receipt of the SIP "invite" message from the server **110**, the soft-switch **220** consults the dial plan for this subscriber. The dial plan to use can be determined from the ID of the server **110**." *Id*. at 9:30-33. "Many subscribers, each with multiple locations, can be served by the same packet-switch/soft-switch network. Each subscriber can use their the [sic] own IP address plan as well as their own dial plan." *Id.* at 12:60-66; *see also id*. at 3:56-64 (noting each IP phone can be assigned its own E.164 number and IP address); **Ex. 1009**, *Houh Declaration* at ¶ 45 (noting that because multiple subscribers can be associated with a single server, a subscriber's dial plan, in addition to an ID of the server, must necessarily include unique subscriber-specific information such as an E.164 telephone number, globally unique database key, or the like). *Additionally, ~~Chu '366~~Chen teaches establishing a caller dial plan that ~~users may set up "call origin profiles" that include calling~~ includes attributes of the calling party such as ~~geographic location,~~ country code~~,~~ and area code.* **Ex. ~~1007~~**, ~~*Chu '366* at 2:9-15 (describing call origin location profiles).~~**1008**, *Chen* at ¶ 0033 (describing dial plan); *see also id*. at Fig. 6 (illustrating the caller's country code and area code prepended to dialed digits to create an E.164 compliant number).
(b) when at least one of	*As illustrated in Fig. 8B of the '005 Patent, an initial*

said calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria, 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 (c) when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.	*match between the dialed digits ("callee identifier") and calling attributes determines whether the dialed digits must be reformatted in order to identify the intended callee. Once reformatted (e.g., NDD removed and caller country code prepended), the reformatted callee identifier is used to determine whether the callee is a subscriber on the private network or is a customer on the public network, i.e., whether "public network classification criteria" or "private network classification criteria" are met. The combination of Chu '684 and ~~Chu '366~~Chen performs this precise process.* *~~Chu '366~~Chen teaches reformatting dialed digits to generate an E.164 compliant compliant callee identifier when dialed digits "match" caller attributes, e.g., when the dialed digits equal ~~the national dialing length of the caller's origin designation~~an NDD prefix in the caller's dial plan.* ~~*Id.* at Abstract (dialed digits are reformatted "as E.164 compliant telephone numbers").~~ ~~"[A] user is able to enter telephone numbers for VoIP telephone calls as they would according to a traditional telephone numbering plan for land-line telephone calls. . . . The E.164 formatting engine receives the entered phone number and retrieves the call origin location." *Id.* at 1:67-2:20 (emphasis added); *see also id.* at 2:46-53.~~ ~~"In step **172**, if the number of digits entered in a telephone number equals the national length of telephone numbers in the country of the call origin location (e.g., ten digits in the United States), the engine **102** interprets this as a call somewhere within the country of the designated call origin location. Accordingly, in step **174**, the engine **102** concatenates the E.164 prefix, the country code for the country of the designated call origin location and~~

	~~the entered telephone number to form a fully formatted E.164 telephone number.~~" ~~*Id.* at 2:14-22 (emphasis added).~~"In the present invention, each translation function has a corresponding dial plan, and each dial plan has the following components needed by either the translation-**1** or the translation-**2**: (1) IDD prefix, (2) NDD prefix, (3) Country code, and (4) Area code." *Id.* at ¶ 0033; ; *see also id.* at ¶¶ 0035-0040 *Compare* ~~*Id.*~~*id.* at Fig. 6 (illustrating numerous ~~number~~ match and reformatting scenarios ~~based on matching~~, including, e.g., Cells 606-607 where E.164 compliant number created by removing NDD prefix and prepending caller's country code when dialed digits ~~to caller attributes~~equal NDD prefix) *with* **Ex. 1001**, *'005 Patent* at Fig. 8B (same~~).~~ at Cells 380-388). *Once the callee identifier ~~is~~has been reformatted, Chu '684 determines whether the callee is a private packet network subscriber or a public PSTN customer (i.e., whether the call "meets public network classification criteria" or "private network classification criteria").* "At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN." **Ex. 1006**, *Chu ~~'~~'684* at 8:65-9:1. *Chu '684 also teaches generating (1) a private network routing message identifying an IP address of the egress packet switch ("address, on the private network, associated with the callee") when the call is classified as private and (2) a public network routing message identifying a gateway to the public PSTN when the call is classified as public.*

	"At step **610**, upon receipt of the SIP "invite" message from the server **110**, the soft-switch **220** consults the dial plan for this subscriber. The dial plan to use can be determined from the ID of the server **110**. In this example, the call is to another on-net phone in another location. From the database associated with the dial plan, soft-switch 220 determines the following: (1) the IP address of the egress packet switch; (2) the connection to use as the next hop for the bearer traffic; and (3) the IP address of the soft-switch of the next hop packet switch. Once the soft-switch **220** has determined this information, it sends H.248 commands to packet switch **210**." *Id*. at 9:30-49 (emphasis added). "For connectivity to the PSTN, gateways **1302** are deployed in the network **200**. For an outgoing call from an originating point phone (IP phone **101** in FIG. 13), the operation is very similar to that of an intra-net call. From the dialed digits (of a destination phone that is being called, PSTN phone **1301**), ingress softswitch **220**, determines that this call is for the PSTN. From the same dialed digits, the soft-switch also determines the egress PSTN gateway **1302** and its controlling soft-switch **1304**. The ingress soft-switch **220** will proceed the call signaling and control as described previously. The gateway **1302** acts as an "egress packet switch" having modifications." *Id.* at 13:12-34 (emphasis added).
24. The process of claim 1, 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.	*Chu '684 teaches a soft-switch that sends routing messages to a second soft-switch ("call controller") which controls the egress packet switch for a private VoIP call and the PSTN gateway for call terminating to the public PSTN.* "The soft-switch 220, based on requests from the server 110 or peer soft-switches (explained in greater detail below), sends the appropriate commands to

	packet switch 210 to set up the appropriate cross-connects." *Id.* at 4:52-56; *see also id*. at 9:30- 49 (describing private routing message for calls to "on-net phone in another location"), Figs. 6-11, 14a, 13:12-34 (describing public routing message for calls to PSTN), Fig. 13.
25. A non-transitory computer readable medium encoded with codes for directing a processor to execute the method of claim 1.	*One of skill in the art would understand that the soft-switch and packet switch functionalities described in Chu '684 are necessarily implemented in software, which necessarily involves codes for directing a processor to implement the method steps describes in the excerpts above.* **Ex. 1009**, *Houh Declaration* at ¶ 50.
26. 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:	*See* disclosure set forth at claim element 1 (preamble).
(a) at least one processor operably configured to: 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* disclosure set forth at claim element 1 (a).
(b) 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, produce a private network routing message for receipt by a call controller, said private network routing message identifying an address, on	*See* disclosure set forth at claim element 1 (b-c).

the private network, associated with the callee; and	
(c) when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, 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* disclosure set forth at claim element 1 (b-c).
49. The apparatus of claim 26, wherein said at least one 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.	*See* disclosure set forth at claim 24.
50. 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:	*See* disclosure set forth at claim element 1 (preamble).
(a) means for using a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with	*As described in Section III.C.1(a), the corresponding structure for "means for using" is a processor circuit programmed to implement the algorithm disclosed in cell 254 of Fig. 8A. Chu '684 ~~teaches a subscriber's~~and Chen teach subscriber dial ~~plan and Chu '366 teaches "call origin profiles,"~~plans, both*

the caller; and	*of which are located using a caller identifier by processor circuits programmed with algorithms equivalent to cell 254.* *See* disclosure set forth at claim element 1(a). *See also*, **Ex. 1009**, *Houh Declaration* at ¶ 47 (concluding that the caller dialing profiles taught by *Chu '684* and ~~*Chu '366*~~*Chen* are necessarily located by processors programmed with algorithms equivalent to the disclosed RC processor circuit 200 programmed to implement the algorithm disclosed in cell 254 of Fig. 8A).
(b) means for, 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, 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 (c) means for, when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, producing a public network routing message for receipt by the call controller, said public network routing message	*As described in Section III.C.1(b), the corresponding structure for these limitations is a processor for implementing one or more branch of the algorithm in Fig. 8B (for the matching functions) and the algorithm illustrated in cell 350 of FIG. 8A or cell 644 of Fig. 8C (for generating the private routing messages) and the claimed function (for generating public routing messages). The combination of Chu '684 and ~~Chu '366~~Chen determines when a portion of the dialed digits (callee identifier) matches calling attributes (e.g., dialing length, area code, etc.) in order to reformat the callee identifier as necessary and to then determine if the callee is on the public or private network, which is equivalent to the algorithm in Fig. 8B. This combination also generates routing messages using a processor circuit programmed to implement algorithms equivalent to cell 350 of FIG. 8A, cell 644 of Fig. 8C, and the claimed function.* *See* disclosure set forth at claim element 1(b-c). *See also*, **Ex. 1009**, *Houh Declaration* at ¶ 48 (concluding that the combination of *Chu '684* and ~~*Chu '366*~~*Chen* implements algorithms equivalent to the processor-implemented algorithm of Fig. 8B, cell 350 of FIG. 8A, cell 644 of Fig. 8C, and the claimed function).

identifying a gateway to the public network.	
73. The apparatus of claim 50, further comprising 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.	*As described in Section III.C.1(c), the corresponding structure for "means for causing" is processor 202 programmed to perform the algorithms illustrated in cell 381 of FIG. 8A and cell 568 of FIG. 8D. Chu '684 teaches a soft-switch that sends routing messages to a second soft-switch ("call controller") which controls the egress packet switch for a private VoIP call and the PSTN gateway for call terminating to the public PSTN, which is equivalent to these corresponding algorithms.* *See* disclosure set forth at claim 24. *See also*, **Ex. 1009**, *Houh Declaration* at ¶ 49 (concluding that the soft-switch taught by *Chu '684* is equivalent to the disclosed processor 202 programmed to perform the algorithms illustrated in cell 381 of FIG. 8A and cell 568 of FIG. 8D).
74. 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:	*See* disclosure set forth at claim element 1 (preamble).
(a) 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;	*See* disclosure set forth at claim element 1 (a).

(b) 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, 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 (c) when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, 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.	*As described above in reference to claim elements 1(b-c), the combination of Chu '684 and ~~Chu '366~~Chen performs the precise process described in the '005 Patent and illustrated in Fig. 8B, where an initial "match" between the dialed digits ("callee identifier") and calling attributes determines whether the dialed digits must be reformatted in order to identify the intended callee. This combination also teaches that, once reformatted, the callee identifier is used to determine whether (1) the callee is on the same packet-switch/soft-switch network serving the caller ("a first portion . . . controlled by an entity") or (2) if the callee is served by a different subscriber LAN than the caller ("a second portion not controlled by an entity").* *~~Chu '366~~Chen teaches reformatting dialed digits to generate an E.164 compliant callee identifier when dialed digits "match" caller attributes, e.g., when the dialed digits equal ~~the national dialing length of the caller's origin designation.~~an NDD prefix in the caller's dial plan.* *See ~~Chu '366~~Chen* citations set forth at claim element 1 (b-c). *Once the callee identifier is reformatted, Chu '684 determines whether the callee is local (on the "first portion") or on a separate LAN (on the "second portion").* "At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN." **Ex. 1006**, *Chu '684* at 8:65-9:1. *If on the first portion, Chu '684 teaches generating a private network routing message identifying an address on the first portion of the network.*

	"At step **610**, upon receipt of the SIP "invite" message from the server **110**, the soft-switch **220** consults the dial plan for this subscriber. . . In this example, the call is to another on-net phone in another location. From the database associated with the dial plan, soft-switch 220 determines the following: (1) the IP address of the egress packet switch . . . Once the soft-switch **220** has determined this information, it sends H.248 commands to packet switch **210**" *Id.* at 9:30-49 (emphasis added); *see also id.* at 12:60-66 (noting multiple subscribers "can be served by the same packet-switch/soft-switch network"), 8:65-9:1 (noting the server uses dialed digits to determine whether a call is local), 4:52-56 (noting routing message requests may be sent from one soft-switch to another peer soft-switch), Figs. 6-11, 14a. *If on the second portion, Chu '684 teaches generating a private network routing message identifying an address on the second portion of the network.* "The configuration shown in FIG. 14 *a* is for calls between IP phones of different subscribers' networks (i.e. the first subscriber LAN **1304** and a second subscriber LAN **1404**). In such a scenario, both phones have a public E.164 number and an Inter-VPN gateway **1402** is used to interconnect the two phones **101** and **601**. The inter-network operates like two PSTN gateway connected back-to-back, with all the TDM components removed. The major differences between an inter-network packet gateway and a PSTN gateway are: (1) packets move in and out of the gateway with no TDM components or processing; (2) between the Inter-VPN packet gateway **1402** and IP phone **101**, the packet gateway will use an IP address from the first subscriber's IP address space, and VPN identifier identifies

	subscriber **1** (or the egress interface to phone **101**) and (3) there is a similar arrangement for IP phone **601** of subscriber **2**. The inter-VPN will translate the IP address of phone **101** to another IP address from subscriber **2**'s IP address space, and the IP address of phone **601** to another IF address from subscriber **1**'s IP address space, when forwarding packets between the two phones. The translated IP addresses come from IP address polls allocated to the inter-VPN gateway, as described previously for the PSTN gateway." -*Id*. at 13:66-14:21; *see also id*. at 4:52-56 (noting routing message requests may be sent from one softswitch to another peer soft-switch); Figs. 6-11, 14a.
75. The method of claim 74, wherein the packet switched network comprises the Internet.	*Chu '684 teaches that the packet portion of the communication system can be the Internet.* "For the IP addresses, the subscriber can use either its own private IP addressing scheme, the public internet addressing, or the SP's addressing plan. The subscriber manages the mapping between an IP address of an IP phone, its private telephone number, and its E.164 number." *Id.* at 13:4-9 (emphasis added).
76. The method of claim 74, wherein the first participant identifier comprises a first participant telephone number or username.	*Chu '684 teaches using a subscriber's identifying information (e.g., the subscriber's E.164 telephone number) ("a caller identifier") to access a dial plan that includes calling attributes of the subscriber.* *See Chu '684* citations and related expert opinion set forth at claim element 1 (a). ~~*In addition, Chu '366 teaches that a user can setup a "call origin name" associated with his or her profile*~~*In addition, Chen teaches that the first participant's dial plan includes the calling party's telephone number, including at least a national code and area code of the caller*. "In the present invention, each translation function

	has a corresponding dial plan, and each dial plan has the following components needed by either the translation-**1** or the translation- **2**: (1) IDD prefix, (2) NDD prefix, (3) Country code, and (4) Area code." **Ex. ~~1007~~**, ~~*Chu '366* at 13:49-54 (noting a user can enter a "descriptive name" for the call origin location).~~**1008**, *Chen* at ¶ 0033; *see also id.* at Fig, 6 (illustrating the caller's country code and area code prepended to dialed digits to create an E.164 compliant number).
77. The method of claim 74, wherein the second participant identifier comprises a second participant telephone number or username.	*Chu '684 teaches using the dialed digits as an identifier of the called party.* "At step **608**, after receiving all the dialed digits from the phone **101**, server **110** consults its dial plan to determine whether the call is local, to another on-net phone, or to a phone that is on the PSTN." **Ex. 1006**, *Chu '684* at 8:65-9:1.
78. The method of claim 74, wherein the communication comprises a voiceover- IP communication.	*Chu '684 teaches establishing a Voice-over-IP communication between the participants.* *See Chu '684* citations set forth at claim element 1 (preamble).
79. The method of claim 74, wherein the packet switched network is accessed via an Internet service provider.	*Chu '684 teaches that the packet portion of the communication system can be the Internet, which is necessarily accessed via an Internet service provider.* "For the IP addresses, the subscriber can use either its own private IP addressing scheme, the public internet addressing, or the SP's addressing plan. The subscriber manages the mapping between an IP address of an IP phone, its private telephone number, and its E.164 number." **Ex. 1006**, *Chu '684* at 13:4-9 (emphasis added). The public Internet disclosed by *Chu '684* is necessarily accessed via an Internet service provider (ISP). **Ex. 1009**, *Houh Declaration* at ¶ 51.
83. The method of claim 74, wherein the first	*Chu '684 teaches that the call is a private packet network call when the callee's packet switch is*

network classification criterion is satisfied when an address associated with the first participant and the address associated with the second participant are both in the first portion of the packet switched network.	*directly addressable on the same packet network as the caller.* *See Chu '684* citations set forth at claim element 74 (b-c).
84. The method of claim 74, wherein the address in the first portion is accessible through the first participant's Internet service provider.	*Chu '684 teaches that the packet portion of the communication system can be the Internet, which is necessarily accessed via the caller's Internet service provider.* *See Chu '684* citations set forth at claim 79. The public Internet disclosed by *Chu '684* is necessarily accessed via the caller's Internet service provider (ISP). **Ex. 1009**, *Houh Declaration* at ¶ 51.
88. The method of claim 74, wherein the entity is an entity supplying communication services for the first portion.	*Chu '684 teaches a soft-switch that supplies communication services such as call routing to a first portion of a packet network.* **Ex. 1006**, *Chu '684* at 9:30-49 (describing soft-switch entity supplying communication services); *see also id*. at Figs. 6-11, 14a.
89. The method of claim 74, wherein the second network classification criterion is satisfied when access to the second participant requires routing through a portion of the packet switched network operated by a communication service supplier.	*Chu '684 teaches inter-VPN calls, which are characterized by a callee on the second portion of the packet network controlled by a second soft-switch and where this portion of the packet network is necessarily operated by a communication service supplier.* *See* disclosure set forth at claim element 74 (b-c); **Ex. 1009**, *Houh Declaration* at ¶ 52 (concluding that the second portion of the packet network is necessarily operated by a communication service supplier).
92. The method of claim 74, wherein the address in the second portion of the packet switched network	*Chu '684 teaches inter-VPN calls where the second portion of the packet network is controlled by a second soft-switch and where addresses on this portion of the packet network are necessarily*

comprises an address accessed by a communication service supplier.	*accessed by a communication service supplier.* *See* disclosure set forth at claim element 74 (b-c); **Ex. 1009**, *Houh Declaration* at ¶ 52 (concluding that addressed on the second portion of the packet network are necessarily accessed by a communication service supplier).
94. A system for routing 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 system comprising:	*See* disclosure set forth at claim element 1 (preamble).
(a) a controller comprising: a processor operably configured to access a memory, wherein the processor is configured to: 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 associated with the first participant;	*See* disclosure set forth at claim element 1 (a).
(b) produce a first network routing message when at least one of the first participant attributes and at least a portion of the	*See* disclosure set forth at claim element 74 (b-c).

second participant identifier meet a first network classification criterion, 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 (c) produce a second network routing message when 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 second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.	
95. The system of claim 94, wherein the communication comprises a voiceover- IP communication.	*See* disclosure set forth at claim 78.
96. The system of claim 94, wherein the packet switched network is accessed via an Internet service provider.	*See* disclosure set forth at claim 79.
98. The system of claim 94, wherein the second network classification	*See* disclosure set forth at claim 89.

criterion is satisfied when access to the second participant requires routing through a portion of the packet switched network operated by a communication service supplier.	
99. A non-transitory computer readable medium comprising instructions that when executed cause a processor to perform 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:	*See* disclosure set forth at claim element 1 (preamble).
(a) 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;	*See* disclosure set forth at claim element 1 (a).
(b) when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification	*See* disclosure set forth at claim element 74 (b-c).

criterion, 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 (c) when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, 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.	