

# EXHIBIT C

**THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF KANSAS**

SPRINT COMMUNICATIONS COMPANY L.P.,

Plaintiff,

v.

VONAGE HOLDINGS CORP.,  
VONAGE AMERICA, INC.

Defendants.

Case No. 05-2433-JWL

**EXPERT REPORT OF DR. STEPHEN B. WICKER  
REGARDING INFRINGEMENT OF  
U.S. PATENT NOS. 6,665,294, 6,298,064, 6,473,429,  
6,304,572, 6,633,561, 6,463,052, and 6,452,932**

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*communications to the selected narrowband switch in response to the second message.*

The Vonage media gateway is configured to receive SIP/SDP-over-IP messages generated by signaling gateways in the Vonage Call Processing Architecture. The Media Gateway and IP transport network (e.g. routers and communication links) constitute an asynchronous communication system.

The Vonage media gateway receives the Invite message from the signaling gateway, and responds with SIP messages that establish a VoIP communication session between the gateway and the user TA. The media gateway seizes the selected connection to the selected narrowband PSTN switch and transfers, after the appropriate signal processing (e.g. voice decompression), voice traffic received from the user TA to the selected narrowband switch. If the originating caller uses network address translation (NAT), the gateway will receive the user traffic from RTP relays.

In my opinion the accused system practices all of the steps of claim 18 of the Christie '932 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the '932 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the '932 asserted claims they contend are not literally present in the accused system.

**B. U.S. Patent 6,304,572**

Claim 38 reads as follows:

*38. A system for processing telecommunications is signaling that comprises:*

*a first telecommunications device coupled to a first connection and a second connection and configured to receive in-band telecommunications signaling, to convert the in-band telecommunications signaling to an out-of-band telecommunications signaling message and to transmit the out-of-band telecommunications signaling message, to receive a first control message, and to couple the first connection to the second connection in response to the first control message; and*

*a processor that is external to the first telecommunications device and a second telecommunications device and configured to receive the out-of-band telecommunications signaling message from the first telecommunications device and to process the out-of-band telecommunications signaling message to select the second connection, to generate the first control message and a second control message that indicate the second connection, and to transmit the first control*

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SIP message. The RTP packets may be routed through an RTP relay if the customer TA is behind a router that uses NAT.

***3. a processor that is external to the first telecommunications device and a second telecommunications device and configured to receive the out-of-band telecommunications signaling message from the first telecommunications device and to process the out-of-band telecommunications signaling message to select the second connection, to generate the first control message and a second control message that indicate the second connection, and to transmit the first control message to the first telecommunications device and to transmit the second control message to a second telecommunications device.***

The PGW softswitch is a “processor” that is “external” to the TA and the media gateway and RTP relays. The PGW softswitch is configured to receive SIP messages from the TA by way of an outbound proxy, process the SIP messages, and select a “second connection” – the IP addresses for the media gateway and the TA define the IP portion of the call. In the case of a NAT’d TA, the IP address for the RTP relay is used to define the connection.

The SIP 200 OK message sent through the outbound proxy to the TA constitutes a first control message indicating the second connection. The SIP Invite message sent to the media gateway constitutes a second control that indicates the second connection.

See VON\_012528–012532.

In my opinion the accused system satisfies all of the limitations of claim 38 of the Christie ‘572 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the ‘572 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the ‘572 asserted claims they contend are not literally present in the accused system.

**C. U.S. Patent 6,633,561**

Claim 24 reads as follows:

*24. A method of operating a processing system to control a packet communication system for a user communication, the method comprising:*

*selecting a network code that identifies a network element to provide egress for the user communication from the packet communication system to a narrowband communication system;*

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The Vonage media gateway transfers the user communication from the packet communication system to a trunk connection to the selected PSTN switch, thus providing egress from the packet communication system. See, e.g., VON\_012527-012532

In my opinion the accused system practices all of the steps of claim 24 of the Christie '561 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the '561 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the '561 asserted claims they contend are not literally present in the accused system.

**D. U.S. Patent 6,463,052**

Claim 1 reads as follows:

*1. A method of transferring a user communication to a packet communication system, the method comprising:*

*receiving the user communication into a device;*

*receiving signaling formatted for a narrowband system into a processing system;*

*in the processing system, processing the signaling to select a network code that identifies a network element to provide egress for the user communication from the packet communication system;*

*transferring an instruction indicating the network code from the processing system to the device; and*

*transferring a packet including the network code and the user communication from the device to the packet communication system in response to the instruction.*

One of ordinary skill would understand this claim to cover incoming calls – calls from PSTN customers to Vonage customers residing on a broadband network.

***1. A method of transferring a user communication to a packet communication system, the method comprising:***

The Vonage Call Processing Infrastructure implements a method for transferring user communication in the form of a telephone call from a telephone (or similar device) on the PSTN to a media gateway, and then to a packet communication network (an IP-based network). See, e.g., VON\_012541

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The Vonage media gateway transmits user communication in the form of IP packets containing the IP address of the TA (or the RTP relay) to the TA through the IP network (“packet communication system”) in response to the above SIP message. See, e.g., VON\_012541-012545

In my opinion the accused system practices all of the steps of claim 1 of the Christie ‘052 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the ‘052 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the ‘052 asserted claims they contend are not literally present in the accused system.

**E. U.S. Patent 6,665,294**

Claim 19 reads as follows:

*19. A method of transferring a telecommunication signal, the method comprising:*

*transferring a first signal component including user information from a narrowband communication signal;*

*and transferring a second signal component including an identifier for routing the user information, wherein the identifier is selected by processing a signaling message, wherein an interworking device receives the narrowband communication signal and a control signal indicating the narrowband communication signal and the identifier, and in response to the control signal, converts the narrowband communication signal into a packet format having the first signal component including the user information and the second signal component including the identifier to form the telecommunication signal.*

One of ordinary skill would understand this claim to cover incoming calls – calls from PSTN customers to Vonage customers residing on a broadband network.

*1. A method of transferring a telecommunication signal, the method comprising:*

In what follows, I will refer to the accused system as the Vonage Call Processing Architecture. This architecture includes proxies and one or more signaling gateways (PGW softswitches) that exchange signaling related to the setting up and tearing down of voice over IP (VoIP) telephone calls. It follows that the Vonage Call Processing Architecture implements a method for transferring telecommunication signals. See, for example, VON\_012502-012572.

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When the call arrives at the Vonage media gateway, SIP messages are sent to an Inbound Proxy [Miron Depo, 92(7 – 21)]. The Inbound Proxy server determines the Outbound Proxy associated with the called party, and then sends a SIP message to this Outbound Proxy [Miron Depo 96(9) – 97(7)]. The Outbound Proxy in turn sends a SIP message to the called party's Terminal Adapter. [Miron Depo 99(5 – 13), VON\_012543]

The identifier for routing the user information takes the form of the called party's terminal adapter's IP address (or associated RTP relay IP address). The TA IP address (or associated RTP relay IP address) is transferred to the media gateway in a SIP message, or control message, originating from the TA and identifying the narrowband call associated with the TA.

The interworking device called for in this limitation – the Vonage media gateway – converts user information from one transport format to another under the control of call signaling. In the Vonage Call Processing Architecture, SIP/SDP signaling from the customer TA indicates the desired transport format to the Media Gateway. In response to this signal, the Media Gateway converts the narrowband communication signal into IP packets that include the user information and the Terminal Adapter IP address (or associated RTP relay IP address). These IP packets, which include user information and an identifier for routing, are then transferred across the IP network. See, e.g., VON\_012541-012543.

In my opinion the accused system practices all of the steps of claim 19 of the Christie '294 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the '294 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the '294 asserted claims they contend are not literally present in the accused system.

**F. U.S. Patent 6,298,064**

Claim 1 reads as follows:

*1. A communication method for a call comprising:*

*receiving set-up signaling associated with the call into a processing system;*

*processing the set-up signaling in the processing system to select a DS0 connection;*

*generating a message identifying the DS0 connection;*

*transmitting the message from the processing system;*

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***6. receiving the message and an asynchronous communication associated with the call into an interworking unit;***

The Vonage media gateway receives the SIP/SDP message from the PGW softswitch [Miron Depo, 62 (17 – 20)]. The Vonage media gateway also receives asynchronous communication in the form of voice packets originating from the calling party's Terminal Adapter.

***7. in the interworking unit, converting the asynchronous communication into a user communication; and***

The user information is converted from packet form into a narrowband format in the Vonage media gateway. See, e.g., VON\_012527 and 12532.

***8. transferring the user communication from the interworking unit to the DS0 connection in response to the message.***

The narrowband user information is transferred from the Vonage media gateway to the identified DS0 connection. See, e.g., VON\_012527 and 12532.

In my opinion the accused system practices all of the steps of claim 1 of the Christie '064 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the '064 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the '064 asserted claims they contend are not literally present in the accused system.

**G. U.S. Patent 6,473,429**

Claim 23 reads as follows:

***23. A communication system comprising:***

***a processing system configured to receive information related to a user communication, process the information to select an identifier, generate a message containing the identifier, and transmit the message; and***

***an interworking unit configured to receive the message, receive the user communication from a DS0 connection, convert the user communication into an asynchronous communication with the identifier in a header in response to the message, and transfer the asynchronous communication.***

One of ordinary skill would recognize claim 23 as covering calls originating in a narrowband telephone network and being interfaced to a broadband. As shown below, examples include "inbound calls" in the Vonage system.



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from a PSTN switch in the form of a DS0 signal, converts the DS0 signal into payload for RTP voice packets, and transmits the RTP packets to the called party's TA (or to an RTP relay). The packets are transmitted over an IP network (an "asynchronous communication" network). See, e.g., VON\_012541-012545.

In my opinion the accused system satisfies all of the limitations of claim 23 of the Christie '429 patent. It is also my opinion that there are no substantial differences between the accused system and the asserted claims of the '429 patent. Vonage has not provided non-infringement contentions to date and thus has not identified any claim elements they contend are not literally met by the accused system. I reserve my right to supplement my opinions in the event that Vonage identifies elements of the '429 asserted claims they contend are not literally present in the accused system.

**VIII. OTHER CASES IN WHICH I HAVE TESTIFIED DURING THE PAST FOUR YEARS**

- Golden Bridge vs. Ericsson, Nokia, Motorola, Lucent, and TMobile (for the defendants)
- UPaid vs. Qualcomm (for the defendants)
- ITT vs. Sprint and Samsung (for the defendants)
- Microunity vs. Intel (for the defendants)
- PCTEL vs. Agere, 3Com, and US Robotics (for the plaintiff)
- Data Treasury vs. EDS et al. (for the defendants)
- Foundry vs. Nortel (for the plaintiff)
- Zoltar vs. Qualcomm and Snaptrack (for the defendants)
- Broadcom vs. ST Microelectronics (for the defendants)
- Freedom Wireless vs. BCGI, Verizon, Cingular, AT&T Wireless, et al. (for the defendants)
- Symbol vs. Proxim (for the defendant)
- Parental Guide vs. Sony et al. (for the plaintiff)
- PCTel vs. ESS, and Smart Link (ITC) (for the plaintiff)

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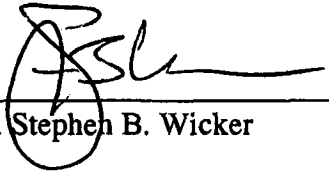
**IX. COMPENSATION TO BE PAID FOR WORK ON THE CASE**

For time spent in connection with study and analysis in this matter, I will be compensated in the amount of \$400 per hour. For time spent in connection with testifying in this matter, I will be compensated in the amount of \$400 per hour. My compensation does not depend on the outcome of this case.

**X. CONCLUSION**

I reserve the right to amend and/or supplement the foregoing in accordance with applicable Court rules, orders and procedures.

1/12/2007  
Date:

  
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Dr. Stephen B. Wicker