EXHIBIT D

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

SUPPLEMENTAL EXPERT REPORT OF DR. STEPHEN B. WICKER REGARDING INFRINGEMENT and VALIDITY 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

A The packets contain the IP address and port, and ***the IP addresses are used for routing****.*

[Dwarkha Deposition, 78(16 – 21), emphasis added]

As stated in my previous reports, it is my opinion that that the claim elements should not be limited to ATM multiplexers. However, even given Mr. Halpern's overly narrow construction, Mr. Dwarkha's testimony supports my previous analysis that Vonage infringes under the Doctrine of Equivalents. Vonage's media gateways provide identical functionality to the ATM interworking multiplexers described in the '429 patent and are insubstantially different. The Vonage media gateway provides the same function as an ATM interworking multiplexer – it converts user information, or voice, received from a circuit switched network to packet form with the routing information appended thereto. The two devices perform this function in substantially the same way – by converting synchronous user information into packet format. And, the result is the same – synchronous communications are converted into packet communications that are routed based on information contained in headers.

Mr. Halpern has asserted that the definition of "out-of-band signaling" requires that the signaling not be sent over the same medium as voice. As seen in the following testimony, this contradicts Vonage's own use of the term. Vonage's media gateways can receive DTMF tones/data either in RTP voice packets (in-band) or in separate signaling messages (out-of-band). In-band is explicitly defined below as requiring direct inclusion within the media stream. In either case, information in the form of DTMF tones is sent directly from the user agent to the media gateway through the Internet. In the out-of-band case, the DTMF information is sent over a different "channel," i.e., in separate packets identifiable as non-voice, while occupying the same medium. I note that this contradicts Mr. Halpern's testimony with regard to the asserted claims of the '572 patent.

Q In Ming Wong's e-mail to you, there's a list of three items near the bottom. There's actually two sets of three items, and I'm referring to the first one. It states: The DTMF digits are handled either in-band or out of band according to the, quote, DTMF relay, end quote, property of the CODEC in use.

A Yes, I see that.

Q What DTMF digits is that statement referring to?

A In this particular e-mail reference?

Q Yes.

A The DTMF d -- digits that are being spoken of are on a outbound call, where the user, being the Vonage customer on the phone that's connected to the outbound call on the PSTN, pushes digits on their keypad.

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

The Sonus GSX 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 my opinion the Virginia architecture practices all of the steps of claim 1 of the Christie '052 patent. Additionally, the Virginia architecture infringes the claims covering inbound calls asserted from the '294, '429, and '561 patents. The infringement analyses put forth in my previous reports are not substantively changed for the Virginia architecture. Vonage infringes these claims regardless of whether a Sonus media gateway is used or a Cisco SIP/media gateway.

VII. CLAIM CONSTRUCTION

In studying the reports of Vonage's experts, I have noted discrepancies between their use of the terms "generating" and "forwarding" and what I believe one of ordinary skill would have understood these terms to mean. In my opinion, a packet is "forwarded" if it is transmitted to another user without changing any of its contents. The contents may be encapsulated in another packet, but its original contents may not be changed in any way. A packet is "generated" when its contents are assembled for the first time. Some of the contents may include material from received packets, but the overall contents are being arranged and transmitted for the first time. If the contents are different in anyway from those received, the resulting message is not being forward but generated.

I note that my construction of the term "generated" is consistent with that of Vonage engineers, as reflected in their testimony quoted above.

VIII. CUMULATIVE ART

One of Vonage's experts, Mr. Koperda, has opined at length regarding several allegedly prior art references, asserting that they either anticipate or render obvious the asserted claims of the Christie invention. I have already addressed these specific claims, and shown them to be in error. In this report I would like to note that many of Mr. Koperda's references are cumulative to references that were already of record. I have been informed by counsel that a reference is "cumulative" with respect to the references of record if it discloses information that has already been disclosed by the references of record. It would follow that the examiner has already considered this information and allowed the asserted claims anyway. In what follows I will list several cited references that, in my opinion, contain the same information on which Mr. Koperda is now founding an argument for invalidity.

U.S. Patent No. 6,463,052 – Claim 5

Asserted Claim	"An Intelligent Hybrid Network Architecture" Presentation
5. The method of claim 1 wherein processing the signaling comprises processing SS7 signaling.	In the depicted embodiment, the Connection Control Processor processes Signaling System #7 (SS7) data. *See, e.g.*, SPRp-01-029-00004 to 06.

X. UNDISPUTED CLAIM LIMITATIONS

In Mr. Halpern's report, he included a chart (appendix F) detailing his non-infringement contentions for each asserted claim. I note there are numerous claim limitations that Mr. Halpern did not address. I have previously set out a detailed analysis of my conclusion that each asserted claim limitation is literally infringed by the Vonage system and the recent testimony from Vonage's witnesses confirms this conclusion. However, at this point, I will assume Mr. Halpern is conceding that any limitations he did not specifically discuss are literally met by the accused Vonage system and I will proceed under the assumption that these limitations are uncontested. In light of my earlier and now uncontested conclusion that these limitations are literally met, it follows that if any distinctions are identified by Vonage in the future, I would consider these limitations infringed under the DOE and I specifically reserve the right to provide detailed analysis under the DOE in light of any such modified contentions by Mr. Halpern.

XI. CONCLUSION

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

April 27, 2007
Date:

Dr. Stephen B. Wicker