IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:	Attorney Docket: 2655-0186
Net2Phone, Inc. (Patent No. 6,131,121)	Group Art Unit: 3992
Control No.: 90/010,424	Examiner: KOSOWSKI, Alexander
Issue Date: October 10, 2000	Date: November 25, 2009
Title: **POINT-TO-POINT COMPUTER NETWORK COMMUNICATION UTILITY DYNAMICALLY ASSIGNED NETWORK PROTOCOL ADDRESSES**	Confirmation No.: 6648

RESPONSE TO NON-FINAL REJECTION IN A RE-EXAMINATION

Hon. Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated August 25, 2009 (and having had the deadline for responding extended one month), the Assignee hereby submits:

Amendments beginning on page 2 of this paper; and

Remarks/Arguments beginning on page 4 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims undergoing re-examination as follows:

6. (Amended) A computer program product for use with a computer system capable of executing a first process and connecting to other processes and a server process over a computer network, the computer program product comprising a computer usable medium having computer readable code means embodied in the medium comprising:

A. program code configured to[,] [following connection of the first process to the computer network,] forward to the server process a network protocol address at which the first process is connected to the computer network following connection of the first process to the computer network;

B. program code configured to query the address server as to whether the second process is connected to the computer network;

C. program code configured to receive a network protocol address of the second process from the address server, when the second process is connected to the computer network; and

D. program code configured to respond to the network protocol address of the second process, establish a point-to-point communication link with the second process over the computer network.

7. (Amended) A computer data signal embodied in a carrier wave comprising:

A. program code configured to[,] [following connection of a first process to a computer network,] forward to a server process a network protocol address at which the first process is connected to the computer network following connection of the first process to the computer network;

B. program code configured to query the server process as to whether a second process is connected to the computer network;

C. program code configured to receive a network protocol address of the second process from the server process, when the second process is connected to the computer network; and

D. program code, responsive to the network protocol address of the second process, and configured to establish a point-to-point communication connection with the second process over the computer network.

8. (Amended) An apparatus for use with a computer system, the computer system executing a first process operatively coupled over a computer network to a second process and a directory database server process, the apparatus comprising:

A. program logic configured to[,] [following connection of the first process to the computer network] forward to the address server a network[,] protocol address at which the first process is connected to the computer network <u>following connection of the first process to the computer network;</u>

B. program logic configured to query the address server as to whether the second process is connected to the computer network;

C. program logic configured to receive a network protocol address of the second process from the address server, when the second process is connected to the computer network; and

D. program logic configured to, in response to the network protocol address of the second process, establish a point-to-point communication link with the second process over the computer network.

REMARKS/ARGUMENTS

Favorable reconsideration of the claims currently undergoing re-examination, in view of the present amendment and in light of the following discussion, is respectfully requested.

STATUS OF THE CLAIMS AND SUPPORT FOR CHANGES TO THE CLAIMS

Claims 6-14 are pending and the subject of this re-examination; claims 1-5 are not subject to re-examination. Claims 6-8 have been amended herewith, but no claims have been added or canceled herewith. The changes to claims 6-8 are supported by claims 6-8 themselves and by col. 6, lines 53-59 which states "When either of processing units 12, 22 logs on to the Internet via a dial-up connection, the respective unit is provided a dynamically allocated IP address by an Internet service provider." Thus, no new matter has been added. The changes are intended to make more explicit what is believed to be understood already -- that those claims refer to dynamic addressing.

RESPONSE TO REJECTIONS

In the outstanding Office Action, three sets of rejections were made as follows:

1. Claims 6-14 were alleged to be anticipated by or rendered obvious by NetBIOS, either alone or in combination with RFC 1531;
2. Claims 6-14 were alleged to be anticipated by or rendered obvious by the Etherphone papers, either alone or in combination with Vin and RFC 1531; and
3. Claims 6-14 were alleged to be obvious over the combination of the VocalChat References, either alone or in combination with RFC 1531.

Each of those rejections is respectfully traversed for the reasons set forth below. Reference is made throughout this response to the Declaration Of Ketan Mayer-Patel Under 37 C.F.R. 1.132 (hereinafter the "Mayer-Patel Declaration") attached hereto as Exhibit 1.

The rejection of Claims 6-14 over NetBIOS, Either Alone or in Combination With RFC 1531

Claims 6-8

Claims 6-8 are rejected under 35 U.S.C. 102 as being anticipated by NetBIOS. Claim 6 has been amended to recite "program code configured to forward to the server process a network protocol address at which the first process is connected to the computer network following connection of the first process to the computer network." Claims 7 and 8 have been amended similarly. Those changes render moot the original ground for rejection. However, in light of the rejection of claims 12-14, claims 6-8 will be addressed as if they had been rejected over NetBIOS and RFC 1531.

The assignee respectfully submits that the conclusion drawn by the Office Action on the combinability of NetBIOS and RFC 1531 is mistaken. The Office Action speculates, with hindsight, as to why a person of ordinary skill might want to combine the two references, but does not acknowledge the problems that would arise in doing so, and does not provide any prior art that would indicate how the problems that dynamic addressing would bring into a NetBIOS type system could be resolved by those of ordinary skill at the time the patent was filed. See Exhibit 1, Mayer-Patel Declaration, paragraph 21. In the context of point-to-point communication, widespread use of dynamically assigned addresses does not solve NetBIOS problems, it creates further problems. The assignee agrees that dynamically assigned addresses were known, and the patent in re-examination specifically states in that regard, "Due to the dynamic nature of temporary IP addresses of some devices accessing the Internet, point-to-point communications in realtime of voice and video have been generally difficult to attain." Col. 2, lines 38-41.

But it is not enough to prove that the cause of a problem existed, namely the problematic use of changing addresses. The Office Action must show by citation of prior art that the problem was recognized, and that the solution for NetBIOS was either known or trivially apparent from the known art. See *Innogenetics, N.V. v. Abbott Laboratories*, 512 F.3d 1363, 1373 (Fed Cir.

2008). ("The district court was nevertheless correct that knowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references to reach the particular claimed method."). If the requester of reexamination had such prior art it would undoubtedly have been provided as part of its exhaustive reexamination request. The fact that there is none is testimony to the lack of teaching in the prior art sufficient to enable the person of ordinary skill to make the suggested combination.

The NetBIOS reference cited in the request, moreover, indicates the opposite. For example, Section 15.1.7 of the NetBIOS reference (entitled "Consistency of the NBNS Data Base") recognizes that the association between a node, a registered name and an IP address is tenuous, even in an environment that uses static IP addresses. "Even in a properly running NetBIOS scope the NBNS and its community of end-nodes may occasionally lose synchronization with respect to the true state of name registrations." To minimize the impact of this problem, the reference states, "Various approaches have been incorporated into the NetBIOS-over-TCP protocols" which it then proceeds to describe. See Exhibit 1, Mayer-Patel Declaration, paragraph 22.

However, by incorporating DHCP and adopting dynamic address allocation as used by Internet access providers, the synchronization problem would become more disruptive, not less. Dynamic addressing introduced a new uncertainty to the relationships among the NBNS and its community of end-nodes and a new set of obstacles to NetBIOS synchronization that *are not addressed by the NetBIOS reference*. Consider the case of a node that is turned-off and then subsequently turned back on, or a node that has simply lost its Internet connection for some technical reason or whose DHCP lease has expired and then re-established a connection. In a dynamic addressing environment, such a node would most likely obtain a new IP address when it was turned back on that was different than the one it had when it registered its name. This change could lead to any number of node-name-IP address synchronization problems for the disclosed NetBIOS protocols. See Exhibit 1, Mayer-Patel Declaration, paragraph 23.

For example, because the NBNS does not know the node's new address, the NBNS would be unable to send to the node a Name Release Request or a Name Conflict Demand or request that the node send it a Name Status Request. Because communication from the node would be originating at a new address that was not recognized by the NBNS, a node's response to a Name Query Request (assuming it somehow knew that its name had been challenged, perhaps from before it lost network connectivity) would not be recognized. A node would also be unable to confirm its association with registered names by sending Name Refresh Request packets to the NBNS. If a session between two NetBIOS applications were cut-off, re-establishing the communication would be especially difficult where the ability of a called entity to obtain both its associated name and its associated IP address were in doubt. As a result, the Office Action has not demonstrated that a solution to the problems created by exposure of NetBIOS to DHCP and dynamic addressing has been addressed by any of the applied references.[1] See Exhibit 1, Mayer-Patel Declaration, paragraph 24.

The Office Action also has not identified anything in the cited art that suggests how a person of ordinary skill is to go about the redesign of NetBIOS and the solving of obstacles to NetBIOS operation that are created by Internet access; *problems that were recognized and left as warnings unresolved in the NetBIOS reference*.[2] See Exhibit 1, Mayer-Patel Declaration, paragraph 24. Merely citing to dynamic addressing, i.e., the source of those problems, is insufficient as the Supreme Court and the Federal Circuit have repeatedly made clear. See

[1] Besides dynamic addressing, Internet access would pose other challenges to a NetBIOS system. For example, because NetBIOS was designed for use on local area networks with small numbers of computers, trust among the network participants is assumed. That assumption cannot be transferred to a global Internet made up of unknown, and sometimes malevolent, entities. An implementation of NetBIOS on the public Internet would necessitate non-trivial adaptations to ensure that its services perform correctly and return accurate information. There is no discussion of security issues in the cited references. See Exhibit 2, from http://www.w3schools.com/Site/site_security.asp which instructs Microsoft Windows users whose computers access the Internet to disable NetBIOS over TCP/IP in order to solve their security problems

[2] The cited references go out of their way *to avoid* describing how a NetBIOS protocol might work in inter-connected network environments that that are *less complex* than the Internet and that *predate* DHCP. See Section 4.6 ("The proposed standard recognizes the need for NetBIOS operation across a set of networks interconnected by network (IP) level relays (gateways.) However, the standard assumes that this form of operation will be less frequent than on the local MAC bridged-LAN.")

Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 567 F.3d 1314, 1326 (Fed. Cir. 2009) citing *inter alia KSR Int'l Co. v Teleflex Inc.*, 550 U.S. 398 (2007) and *U.S. v Adams*, 383 U.S. 39 (1966), for the proposition that obviousness requires not only "the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose," and quoting *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) as saying "[A] reference teaches away from a combination when using it in that combination would produce an inoperative result."

In view of the foregoing, the proposed rejection of claims 6-8 over the combination of NetBIOS and RFC 1531 can be compared to a patent that claims a vehicle that travels on water where one piece of prior art shows a land vehicle and another shows water. The fact that water creates a problem for the land vehicle does not disclose that the person of ordinary skill would know how to build a vehicle capable of crossing the water. Thus, claims 6-8 are patentable over the combination of NetBIOS and RFC 1531. See Exhibit 1, Mayer-Patel Declaration, paragraph 24.

Element (b) of claim 6 also recites "program code configured to query the address server as to whether the second process is connected to the computer network." This limitation is not taught by NetBIOS or by the combination of NetBIOS and RFC 1531. This limitation is also not inherently taught by the NetBIOS procedure by which network addresses associated with a NetBIOS name are discovered. While NetBIOS uses name entries with "active" statuses as part of its name management process, an analysis of how that "active" status is used shows that "an active name" is not synonymous with being connected to the computer network. An active name simply refers to a name that has been registered and that has not yet been de-registered, independent of whether the associated computer is or is not on-line. As shown on page 447 (and reproduced below), the Node_Name entries stored with respect to a NetBIOS Name Server contain a series of fields including the "ACT" field.

The NAME_FLAGS field:

The NAME_FLAGS field is defined as:

Symbol	Bit(s)	Description:
RESERVED	7-15	Reserved for future use. Must be zero (0).
PRM	6	Permanent Name Flag. If one (1) then entry is for the permanent node name. Flag is zero (0) for all other names.
ACT	5	Active Name Flag. All entries have this flag set to one (1).
CNF	4	Conflict Flag. If one (1) then name on this node is in conflict.
DRG	3	Deregister Flag. If one (1) then this name is in the process of being deleted.
OWT	1,2	Owner Node Type: 00 = B node 01 = P node 10 = M node 11 = Reserved for future use
G	0	Group Name Flag. If one (1) then the name is a GROUP NetBIOS name. If zero (0) then it is a UNIQUE NetBIOS name.

See Exhibit 1, Mayer-Patel Declaration, paragraph 25.

The ACT field is a single bit field (in bit 5) that signifies an "Active Name Flag. ***All entries have this flag set to one (1).***" (Emphasis added.) If all name entries have this flag set to one (1), then the NetBIOS name server cannot be using the Active Name Flag as a means of separately tracking whether the entity that owns the name is "active," let alone what its "on-line" status might be. See Exhibit 1, Mayer-Patel Declaration, paragraph 26.

The NetBIOS reference also does not teach that the active status of a name in the NetBIOS server is an indication of the active status of the owner of that name. To the contrary, when information about whether the owner of a name is "active" may be relevant, for example when a new entity seeks to register a name that has already been registered in the NetBIOS name

server, the NetBIOS reference describes an elaborate set of interactions used to test whether the existing owner of the registered name is active or inactive. It does not rely on the fact that the name is active in the NetBIOS name server (See Section 15.2.2.2 and 15.2.2.3 entitled "Existing Name and Owner is Inactive"). See Exhibit 1, Mayer-Patel Declaration, paragraph 27.

The NetBIOS reference also does not teach that an acquired IP address can be reasonably relied upon by a requesting end-node to confirm that an end-node associated with a sought name is, in fact, "connected to the computer network". The NetBIOS reference describes at least two different scenarios where a second end-node sends a *rejection response* to the first end-node *notwithstanding the fact that an end-node is connected* to the computer network and active with respect to the sought name. See Section 16.1.1 ("There exists a NetBIOS LISTEN compatible with the incoming call, but there are inadequate resources to permit establishment of a session...The called name does, in fact, exist on the called node, but there is no pending NetBIOS LISTEN compatible with the incoming call."). No distinction is made in the reference between the rejection response in these cases and the rejection response in cases where the called name does not exist on the called end-node. *Id.*, ("In all but the first case, a rejection response is sent back over the TCP connection to the caller."). See Exhibit 1, Mayer-Patel Declaration, paragraph 28.

Thus, the limitation in element (b) of claims 6-8 are not inherently taught by the NetBIOS references or the combination of NetBIOS and RFC 1531, and the rejection of claim 6-8 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 29.

Claims 9-11

Claims 9-11 also are rejected under 35 U.S.C. 102 as being anticipated by NetBIOS. Claim 9 recites "program code configured to access a directory database... having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network, the network protocol address of each respective process forwarded to the database following connection to the computer network." However, just because a node has

registered a name does not mean that NetBIOS teaches having a database with a selected plurality of processes having on-line status with respect to the computer network. NetBIOS uses name entries with "active" statuses as part of its name management process. However, an analysis of how that "active" status is used shows that "an active name" is not synonymous with an "on-line status," just as it is not synonymous with identifying "whether the second process is connected to the computer network," as was discussed above with respect to claim 6. Thus, the NetBIOS reference does not teach having a directory database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network as claimed. See Exhibit 1, Mayer-Patel Declaration, paragraphs 31 and 32.

Claim 10 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the registration of a name with an NBNS server does not anticipate this limitation of claim 10. See Exhibit 1, Mayer-Patel Declaration, paragraph 33.

Claim 11 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the registration of a name with an NBNS server does not anticipate this limitation of claim 11. See Exhibit 1, Mayer-Patel Declaration, paragraph 34.

Claims 12-14

With respect to claim 12, the Office Action acknowledges that NetBIOS does not explicitly teach "program code for determining the currently assigned network protocol address of the first process upon connection to the computer network." The Office Action asserts that it would have been obvious to one skilled in the art at the time the invention was made to utilize dynamically assigned IP addresses from Internet access servers in the invention taught by NetBIOS. The Office Action further alleges that "it would have been obvious ... to determine

the currently assigned network address of the first process upon connection to the computer network in the invention taught by NetBIOS above since this allows for automatic reuse of an address ... and since examiner notes the use of dynamic IP address assignment ... are old and well known ... and are useful to eliminate the burdensome task of manually assigning IP addresses for all networked computers." However, as discussed above with reference to claims 6-8, the Office Action has not proven that one of ordinary skill in the art would have been motivated to combine NetBIOS and RFC 1531 as alleged. Thus, claims 12-14 are patentable over the applied combination of references. See Exhibit 1, Mayer-Patel Declaration, paragraph 35.

The rejection of claims 6-14 over the Etherphone papers, either alone or in combination with Vin and RFC 1531

Claims 6-11 have been rejected under 35 U.S.C. § 102(b) as anticipated by the Etherphone papers, and claims 12-14 have been rejected under 35 U.S.C. § 103(a) as obvious over the combination of the Etherphone papers in combination with Vin and RFC 1531. Both of those rejections are respectfully traversed.

Claims 6-8

Claim 6 recites "program code configured to query the address server as to whether the second process is connected to the computer network."[3] The Request for Re-examination alleges that "conversations are established between two or more parties (Etherphones, servers, and so on) by performing remote procedure calls to the Voice Control Server." It then alleges that "when a first user at a first Etherphone (a first 'process') calls a second user at a second Etherphone (a second 'process'), the first Etherphone transmits a query in the form of a remote procedure call to determine the location of the second Etherphone." This allegation is made

[3] The Office Action adopts the position of the Request for Re-examination with respect to this rejection, so citations will be made herein after to the Request for Re-examination.

without citation to any portion of the Etherphone papers -- because the conclusion is not supported.

As admitted in the Request for Re-examination, Swinehart states "The telephone control server manages voice switching by sending to each Etherphone or service the network addresses of the other participants. Thereafter, voice datagrams are transmitted directly among the participants, bypassing the control server." Neither the Request for Re-examination nor Swinehart discloses when this information is sent, thus there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). In fact, if the Voice Control Server were periodically sending out information to Etherphones or other services, there would be no need to query the Voice Control Server to determine "whether the second process is connected to the computer network." Thus, this limitation is not inherently met by the Etherphone references, and the rejection of claim 6 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 38.

Similar to claim 6, claim 7 recites "program code configured to query the server process as to whether a second process is connected to the computer network." As was described above with respect to claim 6, there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). Thus, this limitation is not inherently met by the Etherphone references, and the rejection of claim 7 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 39.

Similar to claim 6, claim 8 recites "program logic configured to query the address server as to whether the second process is connected to the computer network." As was described above with respect to claim 6, there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). Thus, this limitation is not inherently met by the Etherphone references, and the rejection of claim 8 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 40.

Claims 9-11

Claim 9 recites "a. program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." The Request for Re-examination asserts that this limitation is taught by the system directory database of local Xerox employees and cites Zellweger, page 4. However, in the paragraph just prior to the section cited by the Request for Re-examination, Zellweger states "Figure 3 shows an Etherphone control window, called Finch, and a personal telephone directory window." The caption for Figure 3 further explains that "the lower window [of Figure 3] shows a portion of a personal telephone directory, which is a set of speed-dialing buttons that can be created easily from an ordinary text file." See Exhibit 1, Mayer-Patel Declaration, paragraph 41.

Figure 3 does not show that the cited database includes the claimed "network protocol address for a selected plurality of processes having on-line status with respect to the computer network" -- rather it simply appears to include phone numbers for the various entries, including phone numbers outside of the Etherphone system. Thus, this limitation is not taught by the Etherphone references, and the rejection of claim 9 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 42.

Similar to claim 9, claims 10 and 11 recite "a directory database... having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." As was described above with respect to claim 9, there is no evidence that the cited system directory database includes "a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Instead, the system directory database simply appears to include telephone numbers, including telephone numbers of phones outside the Etherphone system such that they would not have network protocol addresses. Thus, this limitation is not inherently met by the Etherphone references, and the rejection of claims 10 and 11 should be withdrawn. See Exhibit 1, Mayer-Patel Declaration, paragraph 43.

Claims 12-14

Claims 12 and 13 recite "transmitting, to the server process, a query as to whether a second process is connected to the computer network." Claim 14 recites "program logic configured to transmit, to the server, a query as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6 and its limitation of "program code configured to query the address server as to whether the second process is connected to the computer network," this limitation is not inherently taught by the Etherphone papers. In fact, just as with claim 6, the Request for Re-examination does not even identify where the query is taught for any of claims 12-14, instead simply asserting that the information is known. Thus, the Office Action has not shown that claims 12-14 are rendered obvious by the applied combination of references. See Exhibit 1, Mayer-Patel Declaration, paragraph 44.

The rejection of claims 6-14 over the combination of the VocalChat References, either alone or in combination with RFC 1531

Claims 6-11 stand rejected under 35 U.S.C. § 102(a) as anticipated by VocalChat User's Guide in view of VocalChat Readme, VocalChat Networking, VocalChat Help File and VocalChat Troubleshooting Help file (collectively the "VocalChat References"), and claims 12-14 stand rejected under 35 U.S.C. § 103(a) as obvious over the VocalChat References in view of RFC 1531.

As a preliminary matter, the Office Action has not established that the VocalChat References constitute printed publications as required by statute. See 35 U.S.C. §§ 301 and 302.

The VocalChat References Are Not Printed Publications

The Office Action appears to rely on, but does not expressly reference, Exhibit K of the Request for Re-examination (i.e., the Declaration of Alon Cohen), to establish that the VocalChat References are, in fact, printed publications. As found by the Federal Circuit in *Carella v. Starlight Archery*, 804 F.2d 135, 139, 231 USPQ 644, 646-7 (Fed. Cir. 1986), "one

who wishes to characterize the information, in whatever form it may be, as a 'printed publication' ... should produce sufficient proof of its dissemination or that it has otherwise been available and accessible to persons concerned with the art to which the document relates and thus most likely to avail themselves of its contents." (Citing *In re Wyer*, 655 F.2d 221, 227, 210 USPQ 790, 795 (CCPA 1981) as quoting *Phillips Electronics & Pharmaceutical Industries Corp. v. Thermal & Electronic Industries, Inc.*, 450 F.2d 1164, 1171, 171 USPQ 641, 646 (3rd. Cir. 1971).

Mr. Cohen states in paragraph 3 of his declaration that "the first version of the VocalChat product was commercially released to the public in 1993." However, this provides no indication of what information was distributed with that version (or even what the version number was of that version).

In paragraph 4 of his declaration, Mr. Cohen alleged that VocalChat 1.01 Networking Information "was publicly distributed in 1994 as part of the VocalChat version 1.01 software, which was commercially released and on sale to the general public in 1994." Mr. Cohen did not, however, allege the facts necessary to show that the files are actually printed publications For example, to whom was the software distributed, if anyone, outside of VocalTec? Second, how many copies were distributed and under what conditions? For example, were the copies distributed under a confidentiality agreement such that the associated files were not available to the general public? Were they distributed in such a way as to have been sufficiently available to one of ordinary skill in the art that she/he could have found them when trying to solve a similar problem? Without evidence on these factors, the mere allegation that VocalChat 1.01 Networking Information "was publicly distributed in 1994 as part of the VocalChat version 1.01 software, which was commercially released and on sale to the general public in 1994" is insufficient to show that this reference constitutes a printed publication.

Similarly, with respect to the VocalChat Help File and the VocalChat Troubleshooting Help file, Mr. Cohen alleges in paragraph 6 of his declaration that "Electronic copies of these documents were publicly distributed in 1994 as part of the VocalChat version 2.02 software,

which was commercially released and on sale to the general public as a boxed product in 1994." However, this too fails to provide the same relevant facts required to make a prima facie case that the VocalChat Help file and VocalChat Troubleshooting Help file constitute printed publications.

As also described in *Carella*, "Although in some circumstances unsupported oral testimony can be sufficient to prove prior knowledge or use, it must be regarded with suspicion and subject to close scrutiny." 804 F.2d at 138, 231 USQP at 646. Although not disclosed in the declaration, the declarant, Mr. Cohen, is a paid consultant for the Defendants in the litigation relating to the patent in re-examination. See Exhibit 3 where the Court found Mr. Cohen to be a "consultant[] who the defendant has paid, see Deposition of Alon Cohen..." Mr. Cohen also co-founded a company named BitWine that partners with Defendant Skype. See Exhibit 4 (from http://techaddress.wordpress.com/2006/12/06/interview-with-alon-cohen-co-founder-and-co-ceo-of-bitwine.). Mr. Cohen also offers personal services to the public through the BitWine-Skype partnership. See Exhibit 5 (from http://www.bitwine.com/search?query=alon+cohen&=). Moreover, Mr. Cohen's company, VocalTec, produced Internet Phone, and the original patentee, NetSpeak, produced a competing product called WebPhone, thereby creating a potential for bias -- especially when at least one person compared the two products and stated "WebPhone may well become the killer app that puts to shame similar offerings from VocalTec (Internet Phone) and Quarterdeck (WebTalk). See Exhibit 6 (N2P-001-00005919).

TheVocalChat References Do Not Teach All of the Claim Limitations

Even assuming that the VocalChat References constitute printed publications (which has not been established), the combination of references still does not render obvious the claims under re-examination.

Claims 6-8 and 12-14

Claim 6 recites "program code configured to query the address server as to whether the second process is connected to the computer network." The Office Action relies on the arguments in the Request for Re-examination for its allegations of obviousness and states "See claim mapping in Request pages 90-110, incorporated by reference." The Request for Re-Examination asserts that this limitation is taught by the VocalChat User's Guide, the VocalChat Network Information and the VocalChat TroubleShooting Help Guide. However, the Office Action has not identified what portion of those references teaches the claimed "querying." At best, the references teach that a local process reads a "USERS" file or a Connections file. As can be seen from page 4 of the VocalChat Network Information (reproduced below), when the VocalChat system uses the Generic mode, a USERS file is used. See Exhibit 1, Mayer-Patel Declaration, paragraph 46.

2.5. Network parameters in the VocalChat INI files

These are the network parameters in the VocalChat VOCLCHAT.INI and VCSETUP.INI files (under the `NetWork` section).

```
[NetWork]
NetWork=          / description of the selected network
NetWorkUsers=     / user services: NetWare/WinWorkgroups/Generic*
NetWorkProtocol=  / network protocol: IPX/NetBIOS
NetWorkType=      / name of the selected network, for future use
UsersFile=        / path name of users file (when Generic is set)
MyUserName=       / the name of the user (when Generic is set)**
```

* When `Generic` is set, a USERS file is used.
** This line appears only in the VOCALCHAT.INI file of each user.

The VOCLCHAT.INI files are in the windows directory of each user. The VCSETUP.INI file is in the VOCLCHAT directory, where VocalChat was installed, and is used only to supply default values for the different installations.

The USERS file configuration parameter includes a "UsersFile" entry that specifies the "path name of users file (when Generic is set)." However, it is also stated that "The VOCLCHAT.INI files are in the windows directory of each user." Thus, this "UsersFile" entry is a local configuration parameter such that the local VocalChat client reads and writes the USERS file on its own -- without performing the claimed query. See Exhibit 1, Mayer-Patel Declaration, paragraph 46.

Similarly, page 8 of the VocalChat Help file states "If your network type is not NetWare or Windows for Workgroups, the Setup program creates a Connection List file which is used to identify and access users." The Connection List file and the USERS file apparently have the same function. Thus, the identification and access enabled by the Connection List is performed by the local VocalChat client reading and writing the file itself -- without performing the claimed query. Accordingly, claim 6 is not rendered obvious by the applied combination of references. See Exhibit 1, Mayer-Patel Declaration, paragraph 47.

Similarly, with respect to claims 7 and 8, those claims recite "program code configured to query the server process as to whether a second process is connected to the computer network" and "program logic configured to query the address server as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6, the VocalChat References do not teach the claimed querying. Thus, claims 7 and 8 are also patentable over the VocalChat References. See Exhibit 1, Mayer-Patel Declaration, paragraph 48.

Claims 12-14

With respect to claims 12-14, the Office Action adopts the position of the Request for Re-Examination which alleges that those claims are rendered obvious by the combination of the VocalChat References and RFC 1531. However, those claims each recite the transmission of a query that is not taught by the combination of references. Claim 12 recites "program code for transmitting, to the server process, a query as to whether a second process is connected to the

computer network." Claim 13 recites "transmitting, to the server, a query as to whether the second process is connected to the computer network." Claim 14 recites "program logic configured to transmit, to the server, a query as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6, the VocalChat References, at best, describe the local processing of a shared file that must be readable and writeable by all clients. As the references do not teach transmitting a query as to whether a second process is connected to the computer network as claimed. The Office Action also does not allege that RFC 1531 overcomes the deficiency of the VocalChat References. Accordingly, claims 12-14 are not rendered obvious by the combination of the VocalChat References and RFC 1531. See Exhibit 1, Mayer-Patel Declaration, paragraph 49.

The Office Action also has not shown that one of ordinary skill in the art would have made the proposed combination. The Office Action proposes a modification to the VocalChat References by incorporating the teachings of RFC 1531 because it allegedly "would have been obvious to utilize dynamically assigned IP addresses from Internet access servers in the invention taught by VocalChat ... since this allows for automatic reuse of an address that is no longer needed by the host to which it is assigned." Such an allegation ignores the development history of the VocalChat products themselves. See Exhibit 1, Mayer-Patel Declaration, paragraph 50.

As the Examiner is aware, the Request cites a Generic version of the VocalChat client which, according to Mr. Cohen, was released for use on local area networks. See Cohen Declaration, paragraph 3. Absent from the Request, however, is any reference to the subsequent versions of VocalChat that were released by VocalTec for use on the Internet. The first of these versions was released in 1994, at least in beta, and was called VocalChat Gateway To Interent (or "VocalChat GTI"). This Internet version is believed to have required users to manually input callee network addresses into static local address files. (See paragraph 393 of the Pre-Trial Order (filed with the IDS dated August 11, 2009) and Exhibit 7, SKYPE-N2P00286659.)

Likewise, it is believed that VocalChat GTI did not utilize a server at all. See Pre-Trial Order at paragraph 390.

The use of manually input static addresses and the absence of a server suggests that the VocalTec designers—presumably software developers of at least ordinary skill in the art—did not consider the alleged combination of their own VocalChat references with RFC 1531, or it suggests that they did consider it but were unable to overcome the non-trivial obstacles to doing so. See Exhibit 1, Mayer-Patel Declaration, paragraph 52.

The next version of VocalChat was released soon thereafter and was also meant for use on the Internet. This version, again, did not combine the Request's disclosed versions of VocalChat with RFC 1531. Instead, it used Internet Relay Chat (IRC) to help VocalChat clients with dynamically assigned IP addresses find one another. See Pre-Trial Order at paragraph 392 and Exhibit 7, SKYPE-N2P00286660. The development history of VocalChat is strong, objective evidence of nonobviousness. If the designers of the VocalChat Generic implementation did not see fit to combine dynamic addressing with the implementation disclosed in the VocalChat references, it is respectfully submitted that one of ordinary skill in the art would not have done so either, *a fortiori*. See Exhibit 1, Mayer-Patel Declaration, paragraph 53.

Claims 9-11

Claim 9 recites "program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." With reference to this limitation, the Request for Re-examination admits that the VocalChat References disclose:

> When NetBIOS or IPX are used, but not with NetWare or Window for Workgroups, or when TCP/IP is used, a shared CONNLIST.VC file is used by the different running copies of VocalChat to hold user names and addresses. This file is placed in the Post Office directory.

Then the Request for Re-Examination asserts that "the VocalChat client ***queries*** the shared Connection List file (CONNLIST.VC)" when using "other protocols, such as TCP/IP and NetBIOS." However, those two statements are inconsistent. Each VocalChat process actually reads the file and locally processes it, writing back the whole contents of the file when it has added its changes to it. Thus, in the context of multiple, independently-operating VocalChat clients each being able to read from and write to the "shared CONNLIST.VC" file, that file is not acting as a directory database, just a file whose contents could readily become inconsistent with the actual state of processes. For example, if a first process reads the file and then a second process reads the file, then the first process writes the file and then the second process writes the file, the changes written by the first process will be lost when the second process writes back its changes. Similarly, if the second process wrote back the file before the first, then the second process's changes would be lost when the first process wrote back its version of the file. Thus, the VocalChat References do not anticipate the claimed "program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." See Exhibit 1, Mayer-Patel Declaration, paragraph 54.

Similar to claim 9, claim 10 recites "accessing a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network, the network protocol address of each respective process forwarded to the database following connection to the computer network" Similar to the arguments presented above with respect to claim 9, it can be seen that the local processing of a file in a shared directory does not anticipate this limitation of claim 10. See Exhibit 1, Mayer-Patel Declaration, paragraph 55.

Claim 11 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the local

processing of a file in a shared directory does not anticipate this limitation of claim 11. See Exhibit 1, Mayer-Patel Declaration, paragraph 56.

Objective Evidence of Non-Obviousness

In addition to the reasons set forth above showing that all of the elements of the claims under re-examination are not taught by the applied references, it is respectfully submitted that objective evidence supports a finding that the claims are non-obviousness. Objective indicia of non-obviousness, which include commercial success, licenses showing industry respect, and the failure of others, "provide evidence of how the patented device is viewed by the interested public: not the inventor, but persons concerned with the product in the objective arena of the marketplace." *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *WMS Gaming Inc. v. International Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999); *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957 (Fed. Cir. 1997). Evidence supporting the objective indicia of non-obviousness is set out below.

Commercial Success

NetSpeak's WebPhone, an exemplary embodiment of the '121 patent (see, e.g., col. 4, ll. 36-41), was a commercial success as evidenced by the recognition it received in the industry. WebPhone's commercial success is attributable to the novelty and non-obviousness of the invention. *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1393 (Fed. Cir. 1988) ("A prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent.").

NetSpeak's WebPhone won Internet Telephony's 1998 Product of the Year in the category of Internet Telephony Clients. Exhibit 8, page 6 (N2P-200-00012627).

NetSpeak's WebPhone product also won significant praise when compared to other products in the same timeframe. "WebPhone may well become the killer app that puts to shame

similar offerings from VocalTec (Internet Phone) and Quarterdeck (WebTalk). See Exhibit 6 (N2P-001-00005919).

The importance of the claimed invention can also be seen in its praise by other companies in the industry. In a joint press release of NetSpeak and Durand Communications Network ("Durand"), Durand's president and CEO stated "NetSpeak's WebPhone is hands-down the best PC-voice communications package available in the market today. ... We wanted to work with a company whose leading edge technology would add value to our existing MindWire NT CommunityServer by offering unique telephony services so integral to fostering growth within online communities." Exhibit 9, page 1.

NetSpeak's WebPhone was also praised in the Computer Telephony Magazine. The July 1996 Edition included an article on the WebPhone trial version and stated "You've gotta try this Internet telephony package. NetSpeak ... makes WebPhone. ... Does it work? Yes." Exhibit 10 (N2P-200-00012630).

As set forth in the original Assignee's Amended S-1 Registration form (Exhibit 11), NetSpeak's technology was a commercial success as further evidenced by the investments made in the company. At least three different stock offerings were made which raised millions of dollars for the company. The Amended S-1 Registration form describes on numbered page 19:

> In January and February of 1996, the Company sold 1,204,000 shares of Common Stock at $2.50 per share in a private offering raising $2,992,028 ....
>
> In June 1996, the Company issued 207,679 shares of Common Stock to Creative at a price of $5.05 per share raising $943,698 ....
>
> In August 1996, the Company issued 769,853 shares of Common Stock and the Motorola Warrant to purchase up to an additional 452,855 shares of Common Stock at a price of $5.50 per share for a six year period expiring in August 2002 to Motorola raising $3,993,864....

Later, in 1998, Motorola took an even larger interest in NetSpeak by acquiring an additional 27% of the stock that it did not already own at a cost of $90 million. See Press Release, Exhibit 12 (N2P-200-00012891). See also March 30, 1998 article from Telephony online describing strategic alliance between Motorola and NetSpeak. See Exhibit 13 (N2P-102-00000048).

Also in 1998, the Company issued approximately 1.3 million shares of common stock to Bay Networks for $36.8 million. See Exhibit 14, NetSpeak Form 10-K for the Fiscal Year ending December 31, 1997.

See also, the 8-K related to the acquisition of NetSpeak by Net2Phone. Exhibit 15.

As more fully detailed in NetSpeak's 10-K for Fiscal Year 1997 (Exhibit 14), NetSpeak's communications technology was a commercial success as further evidenced by the strategic alliances it made with "with leaders in various segments of the telecommunications and networking industries," including Siemens (whereby Siemens agrees to market NetSpeak's "IP telephony server products"), Bay Networks (whereby the Company agrees "not to provide its source code to...competitors for a period of three years), Fujitsu and Rockwell International (whereby NetSpeak was "integrating its software into the[se] companies' proprietary hardware platforms"), MCI (see Exhibit 16 announcing that MCI signs contract with NetSpeak to incorporate WebPhone in networkMCI Click'NConnect Web-Based Service) and NTC (whereby NetSpeak would "supply IP telephony products and systems"), and others.

NetSpeak's WebPhone client software products were a commercial success as further evidenced by the number and extent of the channels through which they were sold, including "distribution agreements with over 900 ISPs worldwide." See Exhibit 14, 10-K cited above. Details of the operation of the WebPhone client can be found in Exhibits 17 and 18. For example, Exhibit 17 states "the CS [i.e., connection server] updates the user e-mail address, IP address, and online status fields, and uses them to

perform IP address resolution and track account activation information. ... When a user calls ... using a WebPhone, the CS is used to resolve the target e-mail address to an IP address." Similarly, Exhibit 18 states "Connection and Information servers are the addresses here at NetSpeak that your WebPhone uses to find and call other parties. ...Connection Server: is used when you dial someone by e-mail address. If you try to dial someone by e-mail address, the WebPhone, calls the connection server, matches the desired e-mail address to an IP address, disconnects from the Connection server, and dials the IP address."

Licenses Showing Industry Respect

In connection with Motorola's 1998 investment described above, and as set forth more fully in the NetSpeak Form 10-K for the Fiscal Year 1997 (Exhibit 14), NetSpeak and Motorola entered into a joint development and licensing agreement pursuant to which the two companies would seek to join their technologies to enable Internet Protocol multimedia communications on wireless networks. Under that agreement, Motorola obtained a license to develop RF products using NetSpeak's technology, to include NetSpeak's technology in wireless devices such as cellular phones, pagers, satellite phones and two way radios to support real-time multimedia communications (voice, audio, video, data, etc.), and to manufacture and sell NetSpeak products. See description of NetSpeak's technology at page 6 of Exhibit 14 under the header "NETSPEAK'S CORE COMMUNICATIONS TECHNOLOGY" (reciting, *inter alia*, "allows users to connect to other users in a point-to-point fashion, rather than through an intermediate routing mechanism."). NetSpeak's licenses included a license to the WebPhone product and network address resolution technology, see Exhibit 14, which are commercial embodiments of the patented claims. NetSpeak's success in licensing is attributable to the novelty and non-obviousness of the invention. *Demaco Corp.*, 851 F.2d at 1393.

Failure of Others

The inventions claimed in the '121 Patent resolved the problem of locating a computer process connected to a network, where the computer process was assigned a temporary network address. See, e.g., specification at col. 1, line 67 to col. 2, line 3. Each time a particular computer process connected to the network, it would have a different address. Such addresses were largely a by-product of the near-universal adoption of the Dynamic Host Configuration Protocol ("DHCP"), described in RFC 1531 (Exhibit x0012). DHCP disclosed the dynamic allocation of scarce network addresses and permitted addresses to be reused when a computer process disconnected from the network. As shown in Exhibit x0013 and as discussed above, others, including the developers of the VocalChat references cited by the Request, attempted to resolve the problem of locating a computer process with a dynamically assigned address and failed to suggest the claimed steps using querying.

Recognition in the Patent Literature

The Federal Circuit has left itself open to acknowledging that the patent citations of later patent applicants and examiners can be objective evidence of an earlier patent's nonobviousness. See *In re: Mettke*, 570 F.3d 1356, 1361 (Fed. Cir. 2009). This position is supported by the academic literature. See, e.g., Trajtenberg, Manuel , "A Penny for Your Quotes: Patent Citations and the Value of Innovations," The RAND Journal of Economics, Vol. 21, No. 1 (Spring 1990), pp. 172-187 at 174. ("Thus, if citations keep coming, it must be that the innovation originating in the cited patent had indeed proven to be valuable.") (Exhibit 19.) The '365 patent under re-examination is a divisional of U.S. Patent No. 6,108,704. As shown in Exhibit 20, according to the USPTO's own records, the '704 patent and its continuations and divisionals have been cited in 76 issued patents. This supports an inference that the '121 patent in re-examination advanced the art in a nonobvious way that was neither cumulative of the art that came before it nor predictable in its view.

This inference of nonobviousness is especially compelling over the NetBIOS references. Not one issued patent that cites the patent in re-examination (or one of its related patents) also

cites a NetBIOS reference. See Exhibit 21 (including variations on the name for NetBIOS such that it includes RFC 1001 and RFC 1002). This phenomenon is especially significant given that NetBIOS is a well known piece of networking art that has been cited frequently in the patent literature -- 33 times according to the USPTO's records.[4] The assignee respectfully submits that there is a simple explanation for this otherwise highly improbably dichotomy: NetBIOS and the patent in re-examination do not overlap because the scope and content of what they disclose are distinct.

The assignee also notes in this regard that the cover page of U.S. Patent No. 6,389,127, assigned to ICQ Inc., an unrelated company, and entitled "Telephone Status Notification System," references U.S. Patent No. 6,108,704 (of which the patent in re-examination is a continuation-in-part), but does not cite to any of the references submitted in the Request. Their absence from the ICQ patent is especially significant since both NetBIOS and Etherphone are well known pieces of art, and each has been cited frequently in the patent literature—33 times and 135 times, respectively. The assignee respectfully submits that there is a simple explanation for this difference: the references in the Request were not cited by the ICQ patent because they did not teach anything plausibly related to "Status Notification," whereas 6,108,704 was cited because it (and its continuation-in-part, the patent in re-examination) plainly did.

Consequently, in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome and the patentability of the claims subject to re-examination should be indicated as confirmed. An early and favorable action to that effect is respectfully requested.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2655-0186.**

[4] In fact, there are 43 references to NetBIOS if the search includes any of: NetBIOS, RFC 1001, RFC 1002, NBT and NetBT (excluding references to "NBT" in the medical field). See Exhibit 22.

Re-Examination of Patent No. 6,131,121
Control No.: 90/010,424
Filed: February 24, 2009
Reply to Office Action of August 25, 2009

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached

This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

CUSTOMER NUMBER 42624	Respectfully submitted, By: / Michael R. Casey / Michael R. Casey, Ph.D. Registration No.: 40,294

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on November 25, 2009, the RESPONSE TO NON-FINAL REJECTION IN A RE-EXAMINATION filed in Re-examination Control No. 90/010,424 was served by Federal Express (Tracking # _____) on Requestor as follows:

Blakely, Sokoloff, Taylor & Zafman LLP
1279 Oakmead Parkway
Sunnyvale, CA 94085-4040

_____
Michael R. Casey, Ph.D.

Exhibit 1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:
Net2Phone, Inc. (Patent No. 6,131,121)
Control No.: 90/010,424
Issue Date: October 10, 2000
Title: **POINT-TO-POINT COMPUTER NETWORK COMMUNICATION UTILITY DYNAMICALLY ASSIGNED NETWORK PROTOCOL ADDRESSES**

Attorney Docket: 2655-0186
Group Art Unit: 3992
Examiner: KOSOWSKI, Alexander
Confirmation No.: 6648

DECLARATION OF KETAN MAYER-PATEL UNDER 37 C.F.R. 1.132

Hon. Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. INTRODUCTION

1. I have been retained as an independent expert witness by Net2Phone, Inc., the assignee of the patent presently undergoing re-examination (i.e., U.S. Patent No. 6,131,121 (hereinafter "the '121 patent")).

2. I am an expert in the field of networking protocols including networking protocols supporting multimedia streams including digital audio data. See Curriculum Vitae attached as Exhibit 1.

3. I received Bachelors of Arts degrees in Computer Science and Economics in 1992, a Masters of Science in 1997 from the Department of Electrical Engineering and Computer Science and a Ph.D. in 1999 from the Department of Electrical Engineering and Computer Science, all from the University of California, Berkeley.

4. I received the National Science Foundation CAREER Award in 2003 while an Assistant Professor at the University of North Carolina, Chapel Hill.

5. I have had extensive experience in both industry and academia as it relates to the technical fields relevant here. For example, I have been a programmer, a visiting researcher, and an Assistant and Associate professor.

6. I am a co-author of numerous articles that have appeared in a number of refereed publications and proceedings.

7. Governmental agencies, such as the National Science Foundation and the Office of Naval Research, have provided funding for my research.

II. RETENTION AND COMPENSATION

8. I have been retained to offer an expert opinion on the prior art relevant to the '121 patent (and other patents currently under re-examination) and the validity of the claims undergoing re-examination.

9. My work on this case is being billed at a rate of $400 per hour, with reimbursement for actual expenses. My compensation is not contingent upon the outcome of the case.

III. BASIS OF MY OPINION AND MATERIALS CONSIDERED

10. In preparation for this report, I have considered and relied on data or other documents identified in this report. For example, I have reviewed the Office Action dated August 25, 2009 as well as the Request for Re-examination that was filed for the '121 patent including the Exhibits to the Request for Re-examination. I have also reviewed the file history of the '121 patent.

11. I have familiarized myself with the state of the art at the time the '121 patent was filed by reviewing both patent and non-patent references from prior to the filing date of the application that became the '121 patent.

12. My opinions are also based upon my education, training, research, knowledge, and experience in this technical field.

IV. SUMMARY OF MY OPINIONS

13. Based on my prior experience in the field of computer systems and networking, including network communication protocols, and based on my review of the documents relating to the

pending re-examination proceeding, I have developed an understanding of the '121 patent and the claimed inventions.

14. I have been asked to compare the claims of the '121 patent to the references applied in the outstanding Office Action. The results of my comparison are provided below.

15. I understand that the assignee's response includes the following amendments to claims 6-8:

> 6. (Amended) A computer program product for use with a computer system capable of executing a first process and connecting to other processes and a server process over a computer network, the computer program product comprising a computer usable medium having computer readable code means embodied in the medium comprising:
>
> A. program code configured to[,] [following connection of the first process to the computer network,] forward to the server process a network protocol address at which the first process is connected to the computer network following connection of the first process to the computer network;
>
> B. program code configured to query the address server as to whether the second process is connected to the computer network:
>
> C. program code configured to receive a network protocol address of the second process from the address server, when the second process is connected to the computer network; and
>
> D program code configured to respond to the network protocol address of the second process, establish a point-to-point communication link with the second process over the computer network.
>
> 7. (Amended) A computer data signal embodied in a carrier wave comprising:

A. program code configured to[,] [following connection of a first process to a computer network,] forward to a server process a network protocol address at which the first process is connected to the computer network following connection of the first process to the computer network;

B. program code configured to query the server process as to whether a second process is connected to the computer network;

C. program code configured to receive a network protocol address of the second process from the server process, when the second process is connected to the computer network; and

D. program code, responsive to the network protocol address of the second process, and configured to establish a point-to-point communication connection with the second process over the computer network.

8. (Amended) An apparatus for use with a computer system, the computer system executing a first process operatively coupled over a computer network to a second process and a directory database server process, the apparatus comprising:

A. program logic configured to[,] [following connection of the first process to the computer network] forward to the address server a network[,] protocol address at which the first process is connected to the computer network following connection of the first process to the computer network;

B. program logic configured to query the address server as to whether the second process is connected to the computer network;

C. program logic configured to receive a network protocol address of the second process from the address server, when the second process is connected to the computer network; and

D. program logic configured to, in response to the network protocol address of the second process, establish a point-to-point communication link with the second process over the computer network.

16. In general, it is my opinion that all of the claims undergoing re-examination (i.e., amended claims 6-8 and original claims 9-14) are patentable over the applied references for at least the reasons set forth below.

The rejection of claims 6-14 over NetBIOS, either alone or in combination with RFC 1531

17. Claims 6-14 were rejected under 35 U.S.C. §§ 102/103(a) as being anticipated by or obvious over Protocols for X/Open PC Interworking SMB, Version 2, The Open Group (1992) (hereinafter "NetBIOS"), either alone or in combination with RFC 1531.

18. I understand that a claim is rejected under 35 U.S.C. § 102(b) when an examiner believes that each and every limitation of the claim is taught by the applied reference.

19. I understand that a rejection under 35 U.S.C. § 103(a) means that an examiner believes that although no single reference includes all of the claimed limitations, nonetheless the combination of references made by the examiner would have been obvious to one of ordinary skill in the art at the time the invention was made.

Claims 6-8

20. In light of the amendments to claims 6-8, I understand that the assignee is presenting arguments for the patentability of claims 6-8 assuming that the rejection was a rejection under 35 U.S.C. § 103(a) over a combination of NetBIOS and RFC 1531, as was applied in claims 12-14.

21. With respect to claim 12, the Office Action states that "it would have been obvious ... to utilize dynamically assigned IP addresses from Internet access servers in the invention taught by NetBIOS above since this allows for automatic reuse of an address ... and since examiner notes the use of dynamic IP address assignment ... are old and well known ... and are useful to

eliminate the burdensome task of manually assigning IP addresses for all networked computers." However, the Office Action does not acknowledge the problems that could arise in doing so or how those problems would be resolved by those of ordinary skill at the time the patent was filed.

22. In the context of point-to-point communication, widespread use of dynamically assigned addresses can create additional problems for a NetBIOS environment. For example, Section 15.1.7 of the NetBIOS reference (entitled "Consistency of the NBNS Data Base") recognizes that the association between a node, a registered name and an IP address is tenuous, even in an environment that uses static IP addresses. "Even in a properly running NetBIOS scope the NBNS and its community of end-nodes may occasionally lose synchronization with respect to the true state of name registrations." To minimize the impact of this problem, the reference states, "Various approaches have been incorporated into the NetBIOS-over-TCP protocols" which it then proceeds to describe.

23. However, by incorporating DHCP and adopting of dynamic address allocation (e.g., as used by Internet access providers), the synchronization problem would become more disruptive, not less. Dynamic addressing introduced a new uncertainty to the relationships among the NBNS and its community of end-nodes and a new set of obstacles to NetBIOS synchronization that *are not addressed by the NetBIOS reference*. Consider the case of a node that is turned-off and then subsequently turned back on, or the case of a node that has simply lost its Internet connection for some technical reason or whose DHCP lease has expired which then re-establishes a connection. In such a dynamic addressing environment, such a node would most likely obtain a new IP address when it was turned back on that was different than the one it had when it registered its name. This change could lead to any number of node-name-IP address synchronization problems for the disclosed NetBIOS protocols.

24. For example, because the NBNS does not know the node's new address, the NBNS would be unable to send to the node a Name Release Request or a Name Conflict Demand or request that the node send it a Name Status Request. Because communication from the node would be originating at a new address that was not recognized by the NBNS, a node's response

to a Name Query Request (assuming it somehow knew that its name had been challenged, perhaps from before it lost network connectivity) would not be recognized. A node would also be unable to confirm its association with registered names by sending Name Refresh Request packets to the NBNS. If a session between two NetBIOS applications were cut-off, re-establishing the communication would be especially difficult where the ability of a called entity to obtain both its associated name and its associated IP address were in doubt. As a result, the Office Action has not demonstrated that a solution to the problems created by exposure of NetBIOS to DHCP and dynamic addressing has been addressed by any of the applied references.[1] The Office Action also has not identified anything in the cited art that suggests how a person of ordinary skill is to go about the redesign of NetBIOS and the solving of obstacles to NetBIOS operation that are created by Internet access.[2] Thus, I believe claims 6-8 are patentable over the combination of NetBIOS and RFC 1531.

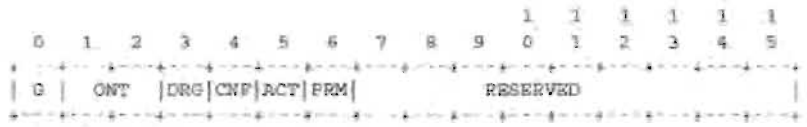
25. Element (b) of claim 6 also recites "program code configured to query the address server as to whether the second process is connected to the computer network." This limitation is not taught by NetBIOS or by the combination of NetBIOS and RFC 1531. This limitation is also not inherently taught by the NetBIOS procedure by which network addresses associated with a NetBIOS name are discovered. While NetBIOS uses name entries with "active" statuses as part of its name management process, an analysis of how that "active" status is used shows that "an active name" is not synonymous with being connected to the computer network. An active name simply refers to a name that has been registered and that has not yet been de-registered,

[1] Besides dynamic addressing, Internet access would pose other challenges to a NetBIOS system. For example, because NetBIOS was designed for use on local area networks with small numbers of computers, trust among the network participants is assumed. That assumption cannot be transferred to a global Internet made up of unknown, and sometimes malevolent, entities. An implementation of NetBIOS on the public Internet would necessitate non-trivial adaptations to ensure that its services perform correctly and return accurate information. See Exhibit 2, from http://www.w3schools.com/Site/site_security.asp which instructs Microsoft Windows users whose computers access the Internet to disable NetBIOS over TCP/IP in order to solve their security problems.

[2] See Section 4.6 ("The proposed standard recognizes the need for NetBIOS operation across a set of networks interconnected by network (IP) level relays (gateways.) However, the standard assumes that this form of operation will be less frequent than on the local MAC bridged-LAN.")

independent of whether the associated computer is or is not on-line. As shown on page 447 (and reproduced below), the Node_Name entries stored with respect to a NetBIOS Name Server contain a series of fields including the "ACT" field.

The NAME_FLAGS field:



The NAME_FLAGS field is defined as:

Symbol	Bit(s)	Description:
RESERVED	7-15	Reserved for future use. Must be zero (0).
PRM	6	Permanent Name Flag. If one (1) then entry is for the permanent node name. Flag is zero (0) for all other names.
ACT	5	Active Name Flag. All entries have this flag set to one (1).
CNF	4	Conflict Flag. If one (1) then name on this node is in conflict.
DRG	3	Deregister Flag. If one (1) then this name is in the process of being deleted.
ONT	1,2	Owner Node Type: 00 = B node 01 = P node 10 = M node 11 = Reserved for future use
G	0	Group Name Flag. If one (1) then the name is a GROUP NetBIOS name. If zero (0) then it is a UNIQUE NetBIOS name.

26. The ACT field is a single bit field (in bit 5) that signifies an "Active Name Flag. ***All entries have this flag set to one (1).***" (Emphasis added.) If all name entries have this flag set to one (1), then the NetBIOS name server cannot be using the Active Name Flag as a means of separately tracking whether the entity that owns the name is "active," let alone what its "on-line" status might be.

27. The NetBIOS reference also does not teach that the active status of a name in the NetBIOS server is an indication of the active status of the owner of that name. To the contrary, when information about whether the owner of a name is "active" may be relevant, for example when a new entity seeks to register a name that has already been registered in the NetBIOS name server, the NetBIOS reference describes an elaborate set of interactions used to test whether the existing owner of the registered name is active or inactive. It does not rely on the fact that the name is active in the NetBIOS name server (See Section 15.2.2.2 and 15.2.2.3 entitled "Existing Name and Owner is Inactive").

28. The NetBIOS reference also does not teach that an acquired IP address can be reasonably relied upon by a requesting end-node to confirm that an end-node associated with a sought name is, in fact, "connected to the computer network." The NetBIOS reference describes at least two different scenarios where a second end-node sends a rejection response to the first end-node notwithstanding the fact that an end-node is connected to the computer network and active with respect to the sought name. See Section 16.1.1 ("There exists a NetBIOS LISTEN compatible with the incoming call, but there are inadequate resources to permit establishment of a session...The called name does, in fact, exist on the called node, but there is no pending NetBIOS LISTEN compatible with the incoming call."). No distinction is made in the reference between the rejection response in these cases and the rejection response in cases where the called name does not exist on the called end-node. Section 16.1.1 also states "In all but the first case, a rejection response is sent back over the TCP connection to the caller."

29. Thus, the limitation in element (b) of claims 6-8 are not inherently taught by the NetBIOS references or the combination of NetBIOS and RFC 1531, and I believe that the Office Action has not shown that claims 6-are obvious over the combination of NetBIOS and RFC 1531.

Claims 9-11

30. Claims 9-11 are rejected under 35 U.S.C. § 102 as being anticipated by NetBIOS.

31. Claim 9 recites "program code configured to access a directory database... having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network, the network protocol address of each respective process forwarded to the database following connection to the computer network." However, just because a node has registered a name does not mean that NetBIOS teaches having a database with a selected plurality of processes having on-line status with respect to the computer network. NetBIOS uses name entries with "active" statuses as part of its name management process. However, an analysis of how that "active" status is used shows that "an active name" is not synonymous with an "on-line status," just as it is not synonymous with identifying "whether the second process is connected to the computer network," as was discussed above with respect to claim 6.

32. Thus, the NetBIOS reference does not teach having a directory database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network as claimed in claim 9. Accordingly, I believe that claim 9 is patentable over the NetBIOS reference.

33. Claim 10 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the registration of a name with an NBNS server does not anticipate this limitation of claim 10. Thus, I believe that claim 10 is patentable over the NetBIOS reference.

34. Claim 11 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the registration of a name with an NBNS server does not anticipate this limitation of claim 11. I believe that claim 11 is patentable over the NetBIOS reference.

Claims 12-14

35. With respect to claim 12, the Office Action acknowledges that NetBIOS does not explicitly teach "program code for determining the currently assigned network protocol address of the first process upon connection to the computer network." The Office Action asserts that it would have been obvious to one skilled in the art at the time the invention was made to utilize dynamically assigned IP addresses from Internet access servers in the invention taught by NetBIOS. The Office Action further alleges that "it would have been obvious ... to determine the currently assigned network address of the first process upon connection to the computer network in the invention taught by NetBIOS above since this allows for automatic reuse of an address ... and since examiner notes the use of dynamic IP address assignment ... are old and well known ... and are useful to eliminate the burdensome task of manually assigning IP addresses for all networked computers." However, as discussed above with reference to claims 6-8, the Office Action has not proven that one of ordinary skill in the art would have been motivated to combine NetBIOS and RFC 1531 as alleged. Thus, I believe that claims 12-14 are patentable over the applied combination of references.

The rejection of claims 6-14 over the Etherphone papers, either alone or in combination with Vin and RFC 1531

36. Claims 6-14 were rejected under 35 U.S.C. §§ 102/103(a) as anticipated by or obvious over Etherphone: Collected Papers 1987-1988 (May 1989) (hereinafter "Etherphone"), either alone or in combination with Harrick M. Vin, et al. *Multimedia Conferencing in the Etherphone* Environment, IEEE Computer Society (October 1991) (hereinafter "Vin") and RFC 1531. The Etherphone Collected Papers include *An Overview of the Etherphone System and its Applications* (hereinafter "Zellweger"), *Telephone Management in the Etherphone System* (hereinafter "Swinehart"), and *Managing Stored Voice in the Etherphone System* (hereinafter "Terry").

Claims 6-8

37. Claim 6 recites "program code configured to query the address server as to whether the second process is connected to the computer network."[3] The Request for Re-examination alleges that "conversations are established between two or more parties (Etherphones, servers, and so on) by performing remote procedure calls to the Voice Control Server." It then alleges that "when a first user at a first Etherphone (a first 'process') calls a second user at a second Etherphone (a second 'process'), the first Etherphone transmits a query in the form of a remote procedure call to determine the location of the second Etherphone." This allegation is made without citation to any portion of the Etherphone papers, and I believe that the conclusion is not supported.

38. As admitted in the Request for Re-examination, Swinehart states "The telephone control server manages voice switching by sending to each Etherphone or service the network addresses of the other participants. Thereafter, voice datagrams are transmitted directly among the participants, bypassing the control server." Neither the Request for Re-examination nor Swinehart discloses when this information is sent, thus there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). In fact, if the Voice Control Server were periodically sending out information to Etherphones or other services, there would be no need to query the Voice Control Server to determine "whether the second process is connected to the computer network." Thus, this limitation is not inherently met by the Etherphone references, and I believe that claim 6 is therefore patentable over the applied reference.

39. Similar to claim 6, claim 7 recites "program code configured to query the server process as to whether a second process is connected to the computer network." As was described above with respect to claim 6, there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). Thus, this

[3] The Office Action adopts the position of the Request for Re-examination with respect to this rejection, so citations will be made herein after to the Request for Re-examination.

limitation is not inherently met by the Etherphone references, and I believe that claim 7 is therefore patentable over the applied reference.

40. Similar to claim 6, claim 8 recites "program logic configured to query the address server as to whether the second process is connected to the computer network." As was described above with respect to claim 6, there is no evidence that a query is sent to an address server (e.g., such that the network address information is returned as part of the result of the query). Thus, this limitation is not inherently met by the Etherphone references, and I believe that claim 8 is therefore patentable over the applied reference.

Claims 9-11

41. Claim 9 recites "a, program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." The Request for Re-examination asserts that this limitation is taught by the system directory database of local Xerox employees and cites Zellweger, page 4. However, in the paragraph just prior to the section cited by the Request for Re-examination, Zellweger states "Figure 3 shows an Etherphone control window, called Finch, and a personal telephone directory window." The caption for Figure 3 further explains that "the lower window [of Figure 3] shows a portion of a personal telephone directory, which is a set of speed-dialing buttons that can be created easily from an ordinary text file."

42. Figure 3 does not show that the cited database includes the claimed "network protocol address for a selected plurality of processes having on-line status with respect to the computer network" -- rather it simply appears to include phone numbers for the various entries, including phone numbers outside of the Etherphone system. Thus, this limitation is not taught by the Etherphone references, and I believe that claim 9 is therefore patentable over the applied reference.

43. Similar to claim 9, claims 10 and 11 recite "a directory database... having a network protocol address for a selected plurality of processes having on-line status with respect to the

computer network." As was described above with respect to claim 9, there is no evidence that the cited system directory database includes "a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Instead, the system directory database simply appears to include telephone numbers, including telephone numbers of phones outside the Etherphone system such that they would not have network protocol addresses. Thus, this limitation is not inherently met by the Etherphone references, and I believe that claims 10 and 11 are therefore patentable over the applied reference.

Claims 12-14

44. Claims 12 and 13 recite "transmitting, to the server process, a query as to whether a second process is connected to the computer network." Claim 14 recites "program logic configured to transmit, to the server, a query as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6 and its limitation of "program code configured to query the address server as to whether the second process is connected to the computer network," this limitation is not inherently taught by the Etherphone papers. In fact, just as with claim 6, the Request for Re-examination does not identify where the query is taught for any of claims 12-14, instead simply asserting that the information is known. Thus, I do not believe that the Office Action has shown that claims 12-14 are rendered obvious by the applied combination of references.

The rejection of claims 6-14 over the combination of the VocalChat References, either alone or in combination with RFC 1531

45. Claims 6-14 were rejected under 35 U.S.C. §§ 102/103(a) as anticipated by or obvious over VocalChat User's Guide in view of VocalChat Readme, VocalChat Networking, VocalChat Help File and VocalChat Troubleshooting Help file (collectively the "VocalChat References"), either alone or in combination with RFC 1531.

Claims 6-8 and 12-14

46. Claim 6 recites "program code configured to query the address server as to whether the second process is connected to the computer network." The Office Action relies on the arguments in the Request for Re-examination for its allegations of obviousness and states "See claim mapping in Request pages 90-110, incorporated by reference." The Request for Re-Examination asserts that this limitation is taught by the VocalChat User's Guide, the VocalChat Network Information and the VocalChat TroubleShooting Help Guide. However, the Office Action has not identified what portion of those references teaches the claimed "querying." At best, the references teach that a local process reads a "USERS" file or a Connections file. As can be seen from page 4 of the VocalChat Network Information (reproduced below), when the VocalChat system uses the Generic mode, a USERS file is used.

2.5. Network parameters in the VocalChat INI files

These are the network parameters in the VocalChat VOCLCHAT.INI and VCSETUP.INI files (under the `NetWork` section).

```
[NetWork]
NetWork=            / description of the selected network
NetWorkUsers=       / user services: NetWare/WinWorkgroups/Generic*
NetWorkProtocol=    / network protocol: IPX/NetBIOS
NetWorkType=        / name of the selected network, for future use
UsersFile=          / path name of users file (when Generic is set)
MyUserName=         / the name of the user (when Generic is set)**
```

* When `Generic` is set, a USERS file is used.
** This line appears only in the VOCALCHAT.INI file of each user.

The VOCLCHAT.INI files are in the windows directory of each user. The VCSETUP.INI file is in the VOCLCHAT directory, where VocalChat was installed, and is used only to supply default values for the different installations.

The USERS file configuration parameter includes a "UsersFile" entry that specifies the "path name of users file (when Generic is set)." However, it is also stated that "The VOCLCHAT.INI

files are in the windows directory of each user." Thus, this "UsersFile" entry is a local configuration parameter such that the local VocalChat client reads and writes the USERS file on its own -- without performing the claimed query.

47. Similarly, page 8 of the VocalChat Help file states "If your network type is not NetWare or Windows for Workgroups, the Setup program creates a Connection List file which is used to identify and access users." The Connection List file and the USERS file apparently have the same function. Thus, the identification and access enabled by the Connection List is performed by the local client reading and writing the file itself -- without performing the claimed query. Accordingly, I do not believe that claim 6 is obvious over the applied combination of references.

48. Similarly, with respect to claims 7 and 8, those claims recite "program code configured to query the server process as to whether a second process is connected to the computer network" and "program logic configured to query the address server as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6, the VocalChat References do not teach the claimed querying. Thus, I believe that claims 7 and 8 are also patentable over the VocalChat References.

Claims 12-14

49. With respect to claims 12-14, the Office Action adopts the position of the Request for Re-Examination which alleges that those claims are rendered obvious by the combination of the VocalChat References and RFC 1531. However, those claims each recite the transmission of a query that is not taught by the combination of references. Claim 12 recites "program code for transmitting, to the server process, a query as to whether a second process is connected to the computer network." Claim 13 recites "transmitting, to the server, a query as to whether the second process is connected to the computer network." Claim 14 recites "program logic configured to transmit, to the server, a query as to whether the second process is connected to the computer network." As was discussed above with respect to claim 6, the VocalChat References, at best, describe the local processing of a shared file that must be readable and writeable by all

clients. As the references do not teach transmitting a query as to whether a second process is connected to the computer network as claimed. The Office Action also does not allege that RFC 1531 overcomes the deficiency of the VocalChat References. Accordingly, I believe that claims 12-14 are not rendered obvious by the combination of the VocalChat References and RFC 1531.

50. The Office Action also has not shown that one of ordinary skill in the art would have made the proposed combination. The Office Action proposes a modification to the VocalChat References by incorporating the teachings of RFC 1531 because it allegedly "would have been obvious to utilize dynamically assigned IP addresses from Internet access servers in the invention taught by VocalChat ... since this allows for automatic reuse of an address that is no longer needed by the host to which it is assigned." Such an allegation ignores the development history of the VocalChat products themselves.

51. The Request cites a Generic version of the VocalChat client which, according to Mr. Cohen, was used on local area networks. See Cohen Declaration, paragraph 3. There apparently was a subsequent version of VocalChat that was also released by VocalTec to the public in 1994, at least in beta. This version, called VocalChat Gateway To Interent (or "VocalChat GTI") was designed for use on the Internet, and I have been informed that Net2Phone believes that VocalChat GTI used static local address files into which static callee addresses were manually input. I have also been informed that Net2Phone believes that VocalChat GTI did not utilize a server at all.

52. Based on the above, I believe the use of manual inputting of static addresses and the absence of a server suggests that the VocalTec designers—presumably software developers of at least ordinary skill in the art- did not consider the alleged combination of their own VocalChat references with RFC 1531, or it suggests that they did consider it but were unable to overcome the non-trivial obstacles to doing so.

53. I have also been informed that Net2Phone believes that soon after the release of the VocalChat GTI version, VocalTec released another VocalChat version that used Internet Relay Chat (IRC) to help VocalChat clients with dynamically assigned IP addresses find one another.

This change from VocalChat GTI to VocalChat IRC appears to be further objective evidence that even the VocalChat designers recognized that the "improvement" to the Generic VocalChat implementation was still deficient. If the designers of the VocalChat Generic implementation did not see fit to combine dynamic addressing with the Generic implementation disclosed in the VocalChat references, then I do not believe that one of ordinary skill in the art would not have done so either.

Claims 9-11

54. Claim 9 recites "program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." With reference to this limitation, the Request for Re-examination admits that the VocalChat References disclose:

> When NetBIOS or IPX are used, but not with NetWare or Window for Workgroups, or when TCP/IP is used, a shared CONNLIST.VC file is used by the different running copies of VocalChat to hold user names and addresses. This file is placed in the Post Office directory.

Then the Request for Re-Examination asserts that "the VocalChat client ***queries*** the shared Connection List file (CONNLIST.VC)" when using "other protocols, such as TCP/IP and NetBIOS." However, those two statements are inconsistent. Each VocalChat process actually reads the file and locally processes it, writing back the whole contents of the file when it has added its changes to it. Thus, in the context of multiple, independently-operating VocalChat clients each being able to read from and write to the "shared CONNLIST.VC" file, that file is not acting as a directory database, just a file whose contents could readily become inconsistent with the actual state of processes. For example, if a first process reads the file and then a second process reads the file, then the first process writes the file and then the second process writes the file, the changes written by the first process will be lost when the second process writes back its changes. Similarly, if the second process wrote back the file before the first, then the second

process's changes would be lost when the first process wrote back its version of the file. Thus, the VocalChat References do not anticipate the claimed "program code configured to access a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network."

55. Similar to claim 9, claim 10 recites "accessing a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network, the network protocol address of each respective process forwarded to the database following connection to the computer network" Similar to the arguments presented above with respect to claim 9, it can be seen that the local processing of a file in a shared directory does not anticipate this limitation of claim 10.

56. Claim 11 recites "a directory database, the database having a network protocol address for a selected plurality of processes having on-line status with respect to the computer network." Similar to the arguments presented above with respect to claim 9, it can be seen that the local processing of a file in a shared directory does not anticipate this limitation of claim 11.

57. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: November 25, 2009

Ketan Mayer-Patel, Ph.D.

EXHIBIT 1 TO MAYER-PATEL DECLARATION

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Education

Ph.D. University of California, Berkeley, 1999
Parallel Software-only Video Effects Processing

M.S. University of California, Berkeley, 1997
Design and Performance of the Berkeley Continuous Media Toolkit

B.A. University of California, Berkeley, 1992
Majors: Computer Science and Economics

Professional Experience

Associate Professor
University of North Carolina, Chapel Hill, NC (August 2005 – present)

Assistant Professor
University of North Carolina, Chapel Hill, NC. (January 2000 – August 2005)

Visiting Researcher
Microsoft Bay Area Research Center (BARC), San Francisco, CA. (June 2003 – December 2003)

Graduate Student Researcher
University of California, Berkeley, CA. (June 1993 – November 1999)

Graduate Student Instructor
University of California, Berkeley, CA. (August 1997 – December 1997)

Programmer
University of California, Berkeley, CA. (June 1992 – June 1993)

Programmer
United States Department of Agriculture, Albany, CA. (May 1991 – June 1992)

Honors and Notables

- National Science Foundation CAREER Award, 2003
- Computer Science Student Association Teaching Award, 2003
- Invited to three major meetings (one domestic and two international) of top multimedia researchers to discuss future directions for the field.
- In the sixteen-year history of the ACM SIGMultimedia Conference, considered to be the premier conference in the field of multimedia, I have published twelve papers in ten different years.

Publications

Refereed Journals

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D. Gotz and K. Mayer-Patel, "GAL: A middleware library for multidimensional adaptation," under review for *ACM Transactions on Multimedia Computing, Communications, and Applications* (21 pages).

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D. Ott and K. Mayer-Patel, "Aggregate congestion control for distributed multimedia applications," *Proceedings of IEEE Infocom '04*, Hong Kong, 7-11 March 2004, vol. 1, pp. 13-23.

K. Mayer-Patel and W. Miaw, "Evaluating the effectiveness of automatic PVR management," *Proceedings of the SPIE Conference on Storage and Retrieval Methods and Applications for Multimedia*, San Jose, CA, January 2004, vol. 5307, pp. 360-365.

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N. Kelshikar, X. Zabulis, J. Mulligan, K. Daniilidis, V. Sawant, S. Sinha, T. Sparks, S. Larsen, H. Towles, K. Mayer-Patel, H. Fuchs, J. Urbanic, K. Benninger, R. Reddy and G. Huntoon, "Real-time terascale implementation of tele-immersion," *Proceedings of the International Conference on Computation Science*, Melbourne, Australia, 2003, Springer-Verlag Lecture Notes in Computer Science vol. 2660, pp. 33-42.

K. Mayer-Patel, L. Le and G. Carle, "An MPEG performance model and its application to adaptive forward error correction," *Proceedings of the 10th International ACM Conference on Multimedia*, Juan-les-Prins, France, 2002, pp. 1-10.

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K. Mayer-Patel and L.A. Rowe, "A multicast control scheme for parallel software-only video effects processing," *Proceedings of the 7th International ACM Conference on Multimedia*, Orlando, FL, 1999, pp. 409-418.

K. Mayer-Patel and L.A. Rowe, "Exploiting temporal parallelism for software-only video effects processing," *Proceedings of the 6th International ACM Conference on Multimedia*, Bristol, England, 1998, pp. 161-169.

T.H. Wong, K. Mayer-Patel and L.A. Rowe, "A software-only video production switcher for the Internet MBone," *Proceedings of the SPIE conference on Multimedia Computing and Networking*, vol. 3310, San Jose, CA, 1998, pp. 28-41.

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K. Mayer-Patel, D. Simpson, D. Wu, and L.A. Rowe, "Synchronized continuous media playback through the World Wide Web," *Proceedings of the 4th International ACM Conference on Multimedia*, Boston, MA, 1997, pp. 435-436.

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Software Artifacts

mpeg_play

The first publicly available MPEG-1 video decoder originally released in 1993. Over 1,000,000 copies of this program have been downloaded. It has been used as a code base for innumerable research and open source systems. Mayer-Patel was the architect of the original code that was later refactored and maintained by a number of other individuals.

The Berkeley Continuous Media Toolkit

The Berkeley CMT provided a framework within which to develop experimental multimedia tools and applications. Although primarily used by researchers at UC Berkeley, it was employed by a number of different research groups world-wide. Development of CMT ended in approximately 1998.

MPEG2Event

This recently released C# library allows researchers to rapidly develop MPEG-2 analysis tools that are interested in the details of bit-level coding elements. Although currently in use

by only a small number of researchers, it is freely available at http://www.cs.unc.edu/~kmp/mpeg2event. Further development of the library is on-going.

Teaching

COMP 416: Introduction to Web Programming
My goal with this course is to pique student interest for more detailed upper-division courses in operating systems, networking, databases, security, etc. while satisfying their practical interest in developing web programming skills.

COMP 426: Advanced Web Programming
A follow-on course to COMP 416, this course expands on client-server programming concepts and concentrates more attention to the design and use of databases and XML-related technologies.

COMP 249: Multimedia Computing and Networking
This course is an advanced graduate-level course that covers the fundamental concepts in multimedia computing and networking. Students are expected to complete an extensive final project, some of which have led to publications in refereed conferences and workshops.

COMP 249-080: Topics in Multimedia Systems
This seminar course provides students with an opportunity to read and present the most research literature in multimedia systems.

Research Areas

Coordinated Multistreaming
In this project, we are developing mechanisms to address the needs of distributed multimedia applications that employ many (i.e., 10's or 100's) of different media flows with complex inter-stream semantics and adaptation requirements. This project addresses fundamental problems in protocol coordination and aggregate congestion control.

Multidimensional Adaptation
We are developing a framework for compactly expressing and evaluating adaptation policies that must negotiate tradeoffs in real-time within very large multiresolutional datasets with high dimensionality.

StrandCast
StrandCast is an application-layer multicast protocol intended for latency-insensitive multimedia applications such as receiver-driven layered multicast and pyramid broadcasting. The design and implementation of StrandCast exploits the lax latency requirements of these applications to optimize for link stress, rapid joins and leaves, and robustness in the face of node failure.

Encoding and Transmission of 3D Scenes from Multiple Cameras
The project explores ways to efficiently transmit video data from a set of cameras viewing the same scene. This problem is at the heart of most tele-immersion applications. Our hypothesis is that it is possible to exploit depth information (even if imperfect) derived from stereo correlation between cameras to more efficiently encode the original color information.

Recoverable Video Adaptation
Existing video adaptation techniques generally lead to irreversibly loss of video quality. In this project, we are exploring adaptation techniques that can be used to recover high (or at least higher) quality video from a set of independently constructed lower quality representations.

Funding

CAREER: Enabling Futuristic Distributed Applications with Integrative Multistream Networking
PI's: K. Mayer-Patel
Agency: National Science Foundation (ANI-0238260)
Amount: $404,387
Duration: 8/15/2003 – 8/14/2008

ITR: Protocol Coordination for Multi-Stream Applications
PI's: K. Mayer-Patel
Agency: National Science Foundation (ANI-0219780)
Amount: $368, 047
Duration: 10/1/2002 – 9/30/2005

RI: Tera-Pixels - Using High-Resolution Pervasive Displays to Transform Collaboration and Teaching
PI's: K. Jeffay, A. Lastra, F.D. Smith, K. Mayer-Patel and L. McMillan
Agency: National Science Foundation (EIA-0303590)
Amount: $590,986
Duration: 8/15/2003 – 8/14/2008

3D Telepresence for Medical Consultation: Extending Medical Expertise Throughout, Between, and Beyond Hospitals
PI's: H. Fuchs, B. Cairns, K. Mayer-Patel, D. Sonnenwald, G. Welch
Agency: National Library of Medicine
Amount: $2,549,980
Duration: 09/30/2003-09/29/2006

Video-Based Representation and Rendering of Large Real and Synthetic Environments
PI's: D. Manocha and K. Mayer-Patel
Agency: Office of Naval Research
Amount: $112,384
Duration: 01/01/2001-12/31/2003

Video Quality Metric Oracle
PI's: K. Mayer-Patel
Agency: North Carolina Networking Initiative Fellowship Program
Amount: $20,000
Duration: 08/15/2001 – 5/15/2002

SCOUT: An On-Line Network Path Measurement and Characterization Tool
PI's: K. Mayer-Patel
Agency: North Carolina Networking Initiative Fellowship Program
Amount: $20,000
Duration: 08/15/2000 – 5/15/2001

Professional Activities

Editorships

- Associate Editor, ACM Transactions on Multimedia Communications, Computing, and Applications (TOMCCAP)
- Associate Editor, IEEE Multimedia Magazine

Executive Committees

- Co-Chair, International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)

Organizing Committees

- Program Chair, ACM Multimedia Systems 2010
- General Co-Chair, Multimedia Networking and Computing 2009
- Program Co-Chair, Multimedia Modeling (MMM) 2009
- General Co-Chair, NOSSDAV 2005
- Program Co-Chair, ACM Multimedia, 2006
- Open Source Software Competition Chair, ACM Multimedia (2004, 2005)
- Tutorial Program Chair, ACM Multimedia (2003)
- Doctoral Symposium Chair, ACM Multimedia (2000, 2001)

Program Committees

- ACM Multimedia
- NOSSDAV
- Multimedia Computing and Networking (MMCN)
- Multimedia Interactive Protocols and Systems Workshop
- IFIP Networking Conference
- Multimedia Information Systems Conference
- International World Wide Web Conference
- SPIE Conference on Multimedia Computing and Networking
- IEEE International Conference on Distributed Computing Systems
- Interactive Distributed Multimedia Systems Workshop
- Global Internet Symposium

Other Professional Service

- Guest Editor, Special Issue of Multimedia Systems Journal featuring expanded papers from the SPIE Conference on Multimedia Computing and Networking, 2003.
- In 2004, participated in a by invitation-only meeting of leaders within ACM SIGMultimedia. A report of the meeting outlining important directions for multimedia research will appear in Transactions on Multimedia Computing, Communications, and Applications.
- Invited to an international meeting of leading multimedia researchers being organized for Spring 2005 in Dagstuhl, Germany to discuss the future of multimedia research.

Past Ph.D. Students

- David Gotz, *Supporting adaptive scalable access to multiresolutional multidimensional data*, May 2005.
- David Ott, *Coordination mechanisms for distributed multistream applications*, November 2005.
- Sang-Uok Kum, *Encoding and transmission of 3D depth streams*, November 2008.

University Service

University Committees

- Tar Heel Bus Tour Advisory Committee (Fall 2001).

Department Service

- Chair of Undergraduate Curriculum Committee (Fall 2009 – present).
- Chair of Graduate Admissions Committee (Spring 2005 – Fall 2009).
- Member of Graduate Admissions Committee (Spring 2001 – Spring 2005).

Other Service

- Project UPLIFT participant (recruitment of minority high school students)
- Co-coach of the UNC ACM Programming Competition team (Fall 2000 – present).

EXHIBIT 2 TO MAYER-PATEL DECLARATION

Web Building Security

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You are offering your IP address to the entire world at this very moment.

Make sure you are not offering access to your private data at the same time.

YOUR IP ADDRESS IS PUBLIC

Accessing the Internet is a security risk.

When you are connected to the Internet, an IP address is used to identify your computer. If you don't protect yourself, this IP address can be used to access your computer from the outside world.

A fixed IP address is a larger security risk.

If you're using a modem with a dial-up connection, you will get a new IP address every time you connect to Internet.

With an ADSL or cable connection users sometimes keep the same IP address for several months, this represents an increased security risk.

If you have a fixed IP address, you give Internet hackers all the time they need to search for entrances on your computer, and to store and share (with other hackers) information they find on your computer.

Your Network Shares

Personal computers are often connected to a shared network. Personal computers in large companies are connected to large corporate networks. Personal computers in small companies are connected to a small local network, and computers in private homes often share a network between family members.

Most often networks are used to share resources like printers, files and disk storage.

When you are connected to the Internet, your shared resources can be accessed by the rest of the world.

A Common Windows Security Problem

Unfortunately, many Microsoft Windows users are unaware of a common security leak in their network settings.

This is a common setup for network computers in Microsoft Windows:

- Client for Microsoft Networks
- File and Printer Sharing for Microsoft Networks
- NetBEUI Protocol
- Internet Protocol TCP/IP

If your setup allows NetBIOS over TCP/IP, you have a security problem:

- Your files can be shared all over the Internet
- Your logon-name, computer-name, and workgroup-name are visible to others

If your setup allows File and Printer Sharing over TCP/IP, you also have a problem:

- Your files can be shared all over the Internet

Computers that are not connected to any network can also have unsecure network settings, because the settings were changed when Internet was installed.

Solving the Problem

For Windows 2000 users:

You can solve your security problem by disabling NetBIOS over TCP/IP.

- Open Windows Explorer
- Right-click on My Network Places
- Select: Properties
- Right-click on Local Area Network
- Select: Properties

- Select: Internet Protocol TCP/IP
- Click on Properties
- Click on Advanced
- Select the WINS tab
- Select Disable NetBIOS over TCP/IP
- Click OK

If you get the message: "This connection has an empty.....", ignore the message and click on YES to continue, and click OK to close the other setup windows.

You should restart your computer after the changes.

For Windows 95, 98, or ME users:

You can solve your security problem by **disabling NetBIOS over TCP/IP**:

- Open Windows Explorer
- Right-click on My Network Places
- Select: Properties
- Select: Internet Protocol TCP/IP
- Click on Properties
- Select the NetBIOS tab
- Uncheck: Enable NetBIOS over TCP/IP
- Click OK

You must also **disable the TCP/IP Bindings** to Client for Microsoft Networks and File and Printer Sharing:

- Open Windows Explorer
- Right-click on My Network Places
- Select: Properties
- Select: Internet Protocol TCP/IP
- Click on Properties
- Select the Bindings tab
- Uncheck: Client for Microsoft Networks
- Uncheck: File and Printer Sharing
- Click OK

If you get a message with something like: "You must select a driver.....", ignore the message and click on YES to continue, and click OK to close the other setup windows.

If you still want to **share your Files and Printer** over the network, you must use the NetBEUI protocol instead of the TCP/IP protocol. Make sure you have enabled it for your local network:

- Open Windows Explorer
- Right-click on My Network Places
- Select: Properties
- Select: NetBEUI
- Click on Properties
- Select the Bindings tab
- Check: Client for Microsoft Networks
- Check: File and Printer Sharing
- Click OK

You should restart your computer after the changes.

Protect Your Server

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Product Spotlight