IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:	Attorney Docket: 2655-0185
Net2Phone, Inc. (Patent No. 6,009,469)	Group Art Unit: 3992
Control No.: 90/010,422	Examiner: KOSOWSKI, Alexander
Issue Date: December 28, 1999	Confirmation No.: 6565

Title: **GRAPHIC USER INTERFACE FOR INTERNET TELEPHONY APPLICATION**

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. 6,009,469 (hereinafter "the '469 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 '469 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 '469 patent including the Exhibits to the Request for Re-examination. I have also reviewed the file history of the '469 patent.

11. I have familiarized myself with the state of the art at the time the '469 patent was filed by reviewing both patent and non-patent references from prior to the filing date of the application that became the '469 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 '469 patent and the claimed inventions.

14. I have been asked to compare the claims of the '469 patent to the references applied in the outstanding Office Action. The results of my comparison are provided below.

15. In general, it is my opinion that all of the claims undergoing re-examination (i.e., claims 1-3, 5, 6, 8, 9 and 14-18) are patentable over the applied references for at least the reasons set forth below.

The rejection of claims 1-3, 5, 6, 8, 9, and 14-18 over NetBIOS, RFC 1531, Pinard and the VocalChat User's Guide

16. Claims 1-3, 5, 6, 8, 9, and 14-18 were rejected under 35 U.S.C. § 103(a) as being obvious in light of Protocols for X/Open PC Interworking SMB, Version 2, The Open Group (1992) (hereinafter "NetBIOS"), in view of RFC 1531, Pinard and the VocalChat User's Guide.

17. 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 1-3

18. Claim 1 recites "a. program code for generating a user-interface enabling control of a first process executing on the computer system." With respect to the limitation of "program code for generating a user-interface enabling control of a first process executing on the computer system," the Office Action alleges that "computers executing NetBIOS ***may contain*** DOS operating systems or may operate on other operating systems, which examiner notes inherently contain at least text-based user interfaces." By stating that NetBIOS "may contain" DOS operating systems I believe the Examiner is indicating that NetBIOS need not actually contain or be running on a

DOS operating system. Since that is true, NetBIOS (or the computer running NetBIOS) does not inherently include text-based user interfaces.

19. Furthermore, the recitation of "other operating systems" also does not inherently mean that "text-based user interfaces" are provided. For example, embedded systems need not have a display or a text interface even though they may have operating systems. The Office Action also has not asserted that this limitation is taught by RFC 1531. Thus, I do not believe that limitation (a) has been shown to be taught by either applied reference.

20. Claim 1 also recites "b. program code for determining the currently assigned network protocol address of the first process upon connection to the computer network." The Office Action admits that NetBIOS does not teach this limitation. The Office Action alleges that such a limitation is taught by RFC 1531 because "RFC 1531 teaches dynamically assigning IP address on a TCP/IP network by an Internet access server." By looking at limitations (a) and (b) together, however, it can be seen that the Office Action has not shown that the currently assigned network protocol address is that of the first process which the Office Action alleged was the "text-based user interface." The Office Action also has not explained why the text-based interface would have to have its currently assigned network protocol address determined. Thus, I do not believe that limitation (b) is taught by either applied reference.

21. Claim 1 recites "c. program code responsive … for forwarding the assigned network protocol address of the first process and a unique identifier of the first process to the server process upon establishing a communication connection with the server process." The Office Action has not shown that the assigned network protocol address of the first process is determined, so the Office Action also has not shown that the assigned network protocol address of the first process would be forwarded to the server upon establishing a communication connection with the server process. Similarly, the Office Action has not shown that the text-based user interfaces would have a unique identifier to be forwarded to the server. The Office Action further has not shown that such a limitation is taught by RFC 1531. Accordingly, I do not believe that limitation (c) is taught by either applied reference.

22. Claim 1 also recites "d. program code, responsive to user input commands, for establishing a point-to-point communications with another process over the computer network." The Office Action cites NetBIOS, pgs. 397-400, as teaching that "point-to-point communication is established upon initiation between nodes once target names and addresses have been found." However, the Office Action has not shown that the code is "responsive to user input commands" as no user input commands have been identified. Even assuming that text-based user interfaces were taught by NetBIOS, the Office Action still would not have shown that point-to-point communications are inherently established "responsive to user input commands." The text-based user interfaces could have been used for non-communicating functions or even functions that use non-point-to-point communications. The Office Action further has not shown that such a limitation is taught by RFC 1531. Accordingly, I do not believe that limitation (d) is taught by either applied reference.

23. Since none of the limitations of claim 1 have been shown to be taught by the applied combination of references, I do not believe that claim 1 and dependent claims 2 and 3 are obvious in light of the proposed combination.

24. The Office Action states 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, 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.

25. 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.

26. 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.

27. 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]

28. 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]

29. Thus, I believe claims 1-3 are patentable over the combination of NetBIOS and RFC 1531.

Claims 5 and 6

30. Claim 5 recites "determining the currently assigned network protocol address of the first process upon connection to the computer network." The Office Action acknowledges that this limitation is not taught by NetBIOS but alleges that "RFC 1531 teaches dynamically assigning IP addresses on a TCP/IP network by an Internet access server." 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 described above with respect to claims 1-3, I do not believe that the Office Action has shown that in light of the problems that worsen by combining NetBIOS and RFC 1531, that a person of

[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.

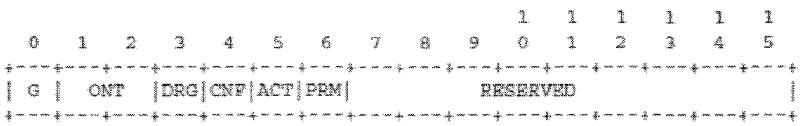
[2] See Section 4.6 ("The proposed standard recognizes the need for NetBIOS operation across a set of networks interconnected by network (IP) level relays (gateways.) However, the standard assumes that this form of operation will be less frequent than on the local MAC bridged-LAN.")

ordinary skill in the art would have combined the two references as proposed. Thus, I believe that claims 5 and 6 are patentable over the applied NetBIOS and RFC 1531 references.

Claims 8, 9 and 14-18

31. Claim 8 recites "querying the server process to determine if the first callee process is accessible." The Office Action asserts that this limitation is taught by NetBIOS and cites pages 377, 388, 389 and 446 as supporting the proposition that "a query is sent to the NBNS to determine if another node is logged in and discover[s] the node[']s IP address." However, the Office Action has not shown how knowing that a name has been registered equates to "determin[ing] if the first callee process is accessible." 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 determining if the first callee process is accessible. 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 accessible. 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.

32. 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.

33. 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").

34. 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, "accessible." 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."

35. The Office Action also has not alleged that any of the remaining references teach this limitation missing from the NetBIOS reference. As such, claim 8 and its dependent claims (claims 9 and 14-18) are not rendered obvious by the cited combination of references.

<u>The rejection of claims 1-3, 5, 6, 8, 9, and 14-18 over the combination of the Etherphone papers in view of Vin and further in view of RFC 1531, Pinard and the VocalChar User's Guide</u>

36. Claims 1-3 were rejected under 35 U.S.C. § 103(a) as obvious over Etherphone: Collected Papers 1987-1988 (May 1989) (hereinafter "Etherphone") in view of Harrick M. Vin, et al. *Multimedia Conferencing in the Etherphone* Environment, IEEE Computer Society (October 1991) (hereinafter "Vin") and further in view of RFC 1531, Pinard and VocalChat User's Guide. 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").

37. Claim 1, as amended, recites "a. program code for generating a user-interface enabling control of a first process executing on the computer system" and "d. program code means, responsive to user input commands, for establishing a point-to-point communications with another process over the computer network." When read together, it can be seen that the Office Action has not shown that these limitations are taught by the applied combination of references.

38. With respect to the limitation "a. program code for generating a user-interface enabling control of a first process executing on the computer system," the Office Action cites Swinehart and Zellweger as teaching that "workstations include GUI's." Later, with respect to the limitation "d. program code means, responsive to user input commands, for establishing a point-to-point communications with another process over the computer network," the Office Action asserts that "after acquiring the network address of a callee, voice datagrams are transmitted directly amont [sic; among] the participants, bypassing the control server." However, by "participants" it appears that the Office Action is referring to Etherphones participating in a telephone call. As such, the Office Action has not shown that the datagrams are transmitted as part of a point-to-point communication from the workstation (which was alleged as having the first process) to one of the Etherphones. In fact, with respect to limitation (c), the Office Action confirms that its interpretation is that the "workstation address [is] transmitted to the Voice Control Server when connected" -- not the Etherphone's network address.

39. Similarly, looking at it from the opposite perspective, if the voice datagrams are actually going from one Etherphone to another, then the Office Action has not shown how the "currently assigned network protocol address of the first process" is the address of the Etherphone and how the Etherphone has a display or "a user-interface enabling control a first process" on that Etherphone. The Office Action also has not alleged that RFC 1531 teaches this limitation missing from the Etherphone references. Thus, claims 1-3 are not rendered obvious by the proposed combination.

Claims 5 and 6

40. Claim 5 recites "A. determining the currently assigned network protocol address of the first process upon connection to the computer network" and "D. establishing a point-to-point communication with another process over the computer network." As described above with respect to claim 1, when these two limitations are examined together, it can be seen that the Office Action has not shown that these limitations are met.

41. With respect to the limitation "A. determining the currently assigned network protocol address of the first process upon connection to the computer network," the Office Action again cites the GUI's of the workstation as meeting this limitation. Then, with respect to the limitation "D. establishing a point-to-point communication with another process over the computer network," the Office Action again states "voice datagrams are transmitted directly amont [sic; among] the participants, bypassing the control server." Thus, as discussed above with respect to claim 1, the Office Action appears to have overlooked that the Etherphone, not the workstation with the GUI, is receiving the voice datagrams, so the Etherphone reference does not teach limitations (A) and (D). The Office Action also has not alleged that RFC 1531 teaches this limitation missing from the Etherphone references. Thus, claims 5 and 6 are not rendered obvious by the proposed combination.

Claims 8, 9 and 14-18

42. Claim 8 recites "a method for establishing a point-to-point communication from a caller process to a callee process over a computer network, the caller process capable of generating a user interface and being operatively connected to the callee process and a server process over the computer network." That method includes "querying the server process to determine if the first callee process is accessible" and "establishing a point-to-point communication link from the caller process to the first callee process."

43. With respect to the limitation of "establishing a point-to-point communication link from the caller process to the first callee process," the Office Action asserts that Swinehart and Zellweger teach "voice datagrams are transmitted directly among participants." However, it appears that the Office Action means that the Etherphone are the "participants." If this is the case, there is no indication that the combination meets the limitation of "the caller process capable of generating a user interface" as the Office Action has not alleged that the Etherphone has such a capability. The Office Action has also not alleged that the other references overcome this deficiency of the Etherphone references. Thus, claim 8 and its dependent claims are patentable over the applied combination of references.

The rejection of claims 1-3, 5, 6, 8, 9, and 14-18 over the combination of the VocalChat references in view of RFC 1531 and Pinard

44. Claims 1-3, 5, 6, 8, 9 and 14-18 were rejected under 35 U.S.C. § 103(a) as 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") and further in view of RFC 1531 and Pinard.

Claims 1-3

45. Claim 1 recites "program code responsive to the currently assigned network protocol address of the first process, for establishing a communication connection with the server process and for forwarding the assigned network protocol address of the first process and a unique identifier of the first process to the server process upon establishing a communication connection with the server process." The Office Action admits that this limitation is not disclosed by the VocalChat references. However, the Office Action attempts to overcome this deficiency by combining the VocalChat references with RFC 1531.

46. 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. Thus, I do not believe that the Office Action has proven that one of ordinary skill at the time the patent was filed would have made the proposed combination.

47. Claim 1 also recites "forwarding the assigned network protocol address of the first process and a unique identifier of the first process to the server process upon establishing a communication connection with the server process." The VocalChat Generic implementation does not disclose such a limitation. In the VocalChat Generic implementation, a local process reads a "USERS" file or a Connections file in its entirety and writes it back in its entirety rather than "forwarding the assigned network protocol address of the first process and a unique identifier of the first process to the server process upon establishing a communication connection with the server process." This causes the VocalChat system to have to send an increasing amount of information as the number of users increases. Sending the whole file such that the new file replaces the old file also creates problems with consistency such that one user's changes could overwrite the changes of another user -- especially as networks got larger which would have increased the problem of inconsistent files being written.

48. 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.

49. 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.

50. 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.

51. 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.

52. Accordingly, I do not believe that the Office Action has shown that claim 1 is rendered obvious by the combination of the VocalChat references and RFC 1531. Since claim 1 is not rendered obvious by the proposed combination, claims 2-3 are not rendered obvious as well.

53. With respect to claim 3, claim 3 further recites "program code for transmitting, from the first process to the server process, a query as to whether the second process is connected to the computer network." As is discussed in greater detail below with respect to claim 8, the VocalChat references do not disclose querying whether processes are connected to the computer network. Thus, claim 3 is also separately patentable from claim 1.

Claims 5 and 6

54. Claim 5 recites "A. determining the currently assigned network protocol address of the first process upon connection to the computer network" and "C. forwarding the assigned network protocol address of the first process to the server process upon establishing a communication connection with the server process." As was discussed above with respect to claim 1, the combination of the VocalChat references and RFC 1531 does not disclose either of those elements. Thus, I believe claim 5 and its dependent claim 6 are not rendered obvious by the combination of the VocalChat references and RFC 1531.

Claims 8, 9 and 14-18

55. Claim 8 recites "C. querying the server process to determine if the first callee process is accessible." The Office Action cites the Help file, pgs. 2 and 26, and Network information, page 10, and asserts that "a server can receive[] queries to determine status and information of users." However, the Office Action has not identified what portion of those references teach 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.

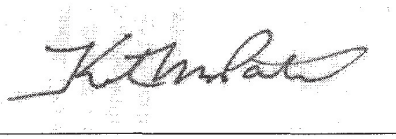
The VOCLCHAT.INI files are in the windows directory of each user. The VCSETUP.INI file is in the VOCLCHAT directory, where VocalChat was installed, and is used only to supply default values for the different installations.

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.

56. 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 claims 8, 9 and 14-18 are obvious over the applied combination of references.

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

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Parallel Software-only Video Effects Processing

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

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Associate Professor
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University of California, Berkeley, CA. (June 1993 – November 1999)

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

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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

K. Mayer-Patel and D. Gotz, "Scalable, Adaptive Streaming for Nonlinear Media," *IEEE Multimedia,* vol. 14, no. 3 (15 pages).

D. Ott and K. Mayer-Patel, "An open architecture for transport-level protocol coordination for distributed multimedia applications," *ACM Transactions on Multimedia Computing, Communications, and Applications*, vol. 3, no. 3 (22 pages).

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).

K. Mayer-Patel, B. Smith, and L.A. Rowe, "The Berkeley software MPEG-1 video decoder," to appear in *ACM Transactions on Multimedia Computing, Communications, and Applications,* vol. 1, no. 1 (23 pages).

K. Mayer-Patel and S.-U. Kum, "Real-time multi depth stream compression," *ACM Transactions on Multimedia Computing, Communications, and Applications,* vol. 1, no. 2 (26 pages).

D. Gotz and K. Mayer-Patel, "A Framework for Scalable Delivery of Digitized Spaces," *International Journal on Digital Libraries*, vol. 5, no. 3 (14 pages).

J. Considine, K. Mayer-Patel, and J. Byers, "A case for testbed embedding services," *Computer Communication Review*, vol. 34, no. 1, January 2004, pp. 137-142.

Refereed Conferences and Workshops

K. Mayer-Patel, "Systems challenges of media collectives: Supporting media collectives with adaptive MDC," *Proceedings of the 15th International ACM Conference on Multimedia,* Augsberg, Germany, 2007, pp. 625-630.

S. Krishnan and K. Mayer-Patel, "A utility-driven framework for loss and encoding aware video adaptation," *Proceedings of the 15th International ACM Conference on Multimedia,* Augsberg, Germany, 2007, pp. 1026-1035.

D. Gotz and K. Mayer-Patel, "A general framework for multidimensional adaptation," *Proceedings of the 12th International ACM Conference on Multimedia,* New York, 2004, pp 612-619.

D. Ott and K. Mayer-Patel, "Coordinated multi-streaming for 3D tele-immersion," *Proceedings of the 12th International ACM Conference on Multimedia*, New York, NY, 2004, pp. 596-603.

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.

S.-U. Kum, K. Mayer-Patel and H. Fuchs, "Real-time compression for dynamic 3D environments," *Proceedings of the 11th International ACM Conference on Multimedia*, Berkeley, CA, 2003, pp. 185-194.

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.

D. Gotz and K. Mayer-Patel, "IRW: an incremental representation for image-based walkthroughs," *Proceedings of the 10th International ACM Conference on Multimedia*, Juan-les-Prins, France, 2002, pp. 67-76.

D. Ott and K. Mayer-Patel, "A mechanism for TCP-friendly transport-level protocol coordination," *Proceedings of the USENIX Technical Conference*, Monterrey, CA, 2002 (14 pages).

A. Wilson, K. Mayer-Patel and D. Manocha, "Spatially-encoded far-field representations for interactive walkthroughs," *Proceedings of the 9th International ACM Conference on Multimedia*, Ottawa, Canada, 2001, pp. 348-357.

D. Ott and K. Mayer-Patel, "Transport-level protocol coordination in cluster-to-cluster applications," *Proceedings of the 8th International Workshop on Interactive Distributed Multimedia Systems (Lecture Notes in Computer Science)*, vol. 2158, Springer, 2001, pp. 10-22.

D. Yu, D. Wu, K. Mayer-Patel and L.A. Rowe, "dc: a live webcast control system," *Proceedings of the SPIE Conference on Multimedia Computing and Networking*, vol. 4312, San Jose, CA, 2001, pp. 111-122.

K. Mayer-Patel, "Incorporating application-level knowledge into the MPEG-2 coding model," *Proceedings of the Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)*, Chapel Hill, CA, 2000, (6 pages).

K. Mayer-Patel and L.A. Rowe, "Exploiting spatial parallelism for software-only video effects processing," *Proceedings of the SPIE Conference on Multimedia Computing and Networking*, vol. 3654, San Jose, CA, 1999, pp. 252-263.

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.

K. Mayer-Patel and L.A. Rowe, "Design and performance of the Berkeley Continuous Media Toolkit," *Proceedings of the SPIE conference on Multimedia Computing and Networking*, vol. 3020, San Jose, CA, 1997, pp. 194-206.

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.

L.A. Rowe, K. Patel, and B. Smith, "MPEG video in software: representation, transmission, and playback," *Proceedings of the SPIE conference on High-Speed Networking and Multimedia Computing*, vol. 2188, San Jose, CA, 1994, pp. 134-144.

K. Patel, B. Smith, and L.A. Rowe, "Performance of a software MPEG video decoder," *Proceedings of the 1st International ACM Conference on Multimedia,* Los Angeles, CA, 1993, pp. 75-82.

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

« Previous Next Chapter »

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

« Previous Next Chapter »

Product Spotlight