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International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	28554
Filer:	William Breen/Linnaea Freeman
Filer Authorized By:	William Breen
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1	Miscellaneous Incoming Letter	INNF0017LargeEntityAssertion.pdf	60639 b620e36332c318c8b1be094a50e5df2aa6d90e62	no	1

Warnings:	
Information:	

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If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/403,818	03/31/2003	Hasan S. Alkhatib	TTCC-01021US0

CONFIRMATION NO. 2698

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POWER OF ATTORNEY NOTICE

OC000000028113939

Date Mailed: 02/06/2008

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/30/2008.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/atesfai/

Office of Initial Patent Examination (571) 272-4000 or 1-800-PTO-9199

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10/403,818	03/31/2003	Hasan S. Alkhatib	TTCC-01021US0

CONFIRMATION NO. 2698

POA ACCEPTANCE LETTER

75671
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OC000000028113959

Date Mailed: 02/06/2008

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/30/2008.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/atesfai/

Office of Initial Patent Examination (571) 272-4000 or 1-800-PTO-9199

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	TTCC-01021US0	2698

75671 7590 02/13/2008

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EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 02/13/2008

Please find below and/or attached an Office communication concerning this application or proceeding.

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10403818	3/31/03	ALKHATIB ET AL.	TTCC-01021US0

Sadler, Breen, Marasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER	
DOUGLAS B. BLAIR	
ART UNIT	**PAPER**
2142	20080212

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

The applicant's response filed on 12/4/2007 is not fully responsive to the last office action for reasons explained on the following page of this letter.

PTO-90C (Rev.04-03)

Notice of Non-Responsive Amendment

The reply filed on 12/4/2007 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s): The applicant's response does not address why the applicant believes the limitations of independent claim 93 are patentable over the prior art of record. See 37 CFR 1.111. Since the above-mentioned reply appears to be *bona fide*, applicant is given **ONE (1) MONTH or THIRTY (30) DAYS** from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS B. BLAIR whose telephone number is (571)272-3893. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas B Blair/
Examiner, Art Unit 2142

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
Filing Date	03/31/2003
Inventorship	Alkhatib *et al.*
Applicant	Inpro Network Facility, LLC
Group Art Unit	2142
Examiner	Blair, Douglas B.
Confirmation No.	2698
Attorney's Docket No.	INNF0017
Title: Secure Virtual Community Network System	(formerly TTCC-01021US0)

RESPONSE TO OFFICE COMMUNICATION DATED FEBRUARY 13, 2008

& FINAL OFFICE ACTION DATED JUNE 5, 2007

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

From: David A. Morasch Tel. 509-755-7250
Fax 509-755-7252
Customer # 75671

INDEX

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SPECIFICATION AMENDMENTS

Please amend the specification as follows:

Substitute the paragraph starting at page 1, line 4, with the following:

This Application is related to the following Applications: U.S. Patent No. 7,139,828 issued November 21, 2006; ~~Application No. 10/233,289, "Accessing An Entity Inside a Private Network," filed on August 30, 2002;~~ U.S. Patent Application No. 10/161,573, "Creating A Public Identity For An Entity On A Network," filed on June 3, 2002; U.S. Patent Application No. 10/233,288, "Communicating With An Entity Inside A Private Network Using An Existing Connection To Initiate Communication," filed on August 30, 2002; U.S. Patent Application No. 10/403,829 "Secure Virtual Address Realm," filed on March 31, 2003~~, Atty. Docket TTCC-01020USO~~; and U.S. Patent Application No. 10/403,518 "Group Agent," filed on March 31, 2003~~, Atty. Docket TTCC-01022US0~~. All of these related applications are incorporated herein ~~be~~ by reference in their entirety.

Substitute the paragraph starting at page 3, line 22, with the following:

For most organizations, the security of devices coupled to the Internet is a concern. As a result, not all devices are directly connected to or accessible via the Internet. Rather, many devices are placed in private networks for security concerns (in addition to the address usage issue ~~describe~~ described above). Many private networks are secured by placing a firewall device between the private network and the Internet.

Substitute the paragraph starting at page 6, line 12, with the following:

Fig. 1 depicts the basic structure of an IP version 4 packet 10 used at the Network Layer. IP packet 10 consists of header 12 and payload 14. Payload 14 stores the data received from the Transport Layer in the TCP/IP model. Fig. [[2]] 2A depicts the format of a header of an IP packet. The header is depicted to include six rows. …[continue with rest of paragraph to page 7, line 20] … indicate security, suggested routing path, previous routing path and ~~time~~ time.

Substitute the paragraph starting at page 7, line 21, with the following:

UDP is an alternative to TCP. Fig. 2B depicts the structure of a packet that uses UDP. Like the TCP, UDP uses the Internet Protocol to actually send a data unit from one computer to another. Unlike TCP, however, UDP does not provide the service of dividing a message into packets (datagrams) and reassembling it at the other end. Specifically, UDP does not provide sequencing of the packets that the data arrives in. Hence, application programs using UDP must ensure that the entire message has arrived and is in the right order. As shown in Fig. 2B, the packet includes ~~and~~ an IP header 12a and IP payload 14a. The payload 14a comprises the UDP header 50 and UDP data 60. UDP header 50 consists of a 16 bit source port identifier, a 16 bit destination port identifier, a length field and checksum field. In Fig. 2B, the Destination Port has a meaning within the context of a particular Internet destination address, and the Length field is the length in octets of this user datagram, including its header and the data. The checksum is the 16-bit one's complement of the sum of consecutive two octaves of a pseudo header of information from the IP header, the UDP header, and the data (padded with zero octets at the end, if necessary, to make a multiple of two octets).

Substitute the paragraph starting at page 8, line 20, with the following:

One solution currently in use that provides for local and remote specified entities to communicate and collaborate using the Internet is the Virtual Private Network ("VPN"). The VPN uses additional network software layers to increase security between users in the public realm and those in private realms. For example, some VPNs encrypt packets using IPsec (or other protocols). The encrypted packets are then encapsulated within a standard packet and transmitted across the Internet to the destination. At the destination, the encrypted packet is decrypted. While the ~~exiting~~ existing VPN provides remote users with secure access to a network, via the Internet, many existing VPNs have various shortcomings that prevent them from satisfying the needs of many users. For example, many VPNs do not provide for peer-to-peer communication with IPsec (or other security measures), do not work though NAT devices in all cases, are difficult to set up and maintain, do not provide for full mobility of entities communicating on the VPN, and do not always provide for communication with entities in the various private network configurations discussed herein.

Substitute the paragraph starting at page 10, line 13, with the following:

A system is disclosed ~~that desired~~ that allows local and remote entities to communicate and collaborate from various locations. In one embodiment, the system makes use of a virtual subnet with a virtual address realm. The virtual address realm allows two or more users to communicate securely via at least one public network, whether the users are both coupled directly to the public network, both coupled directly to separate private networks or whether one is in a public network and one is in a private network. The virtual address realm uses virtual addresses to identify the devices on the

virtual subnet. Although the devices are in different physical subnets, from the point of view of the applications the devices of the virtual subnet appear to be in one local subnet.

Substitute the paragraph starting at page 11, line 11, with the following:

Yet another embodiment of the invention is a method comprising the steps of: defining a virtual address realm overlying a public address realm, the virtual address realm including at least a user set and a logical name for said user set; and routing communications between users in the user set by means of virtual address realm addresses. In a further aspect, this method includes the step of registering users in the user set as members of the virtual address realm. Further, the method may include the step of assigning each registered user a unique virtual address in the virtual address realm. The method may further include the steps of encrypting communications between devices in the realm, and/or applying at least one address realm group policy.

Substitute the paragraph starting at page 12, line 6, with the following:

Another embodiment of the invention comprises a method for providing a secure virtual network. The method may include the steps of: providing a virtual network manager coupled to a public network; defining a member set of users entitled to ~~communicated~~ communicate in the virtual network; registering members with the manager; assigning members a virtual address; and routing network traffic between the members in the virtual community.

Substitute the paragraph starting at page 12, line 12, with the following:

An additional further embodiment of the invention may comprise one or more processor readable storage devices having processor readable code embodied on said processor readable storage devices. The processor readable code may be for programming one or more processors to perform a method comprising the steps of: managing a virtual community network realm; defining a member set of users entitled to ~~communicated~~ communicate in the virtual community; registering users with the virtual community; assigning each user a virtual address; and routing network traffic between the users in the virtual community.

Substitute the paragraph starting at page 15, line 9, with the following:

Fig. 6B is a table depicting the shim configuration of the packet in Fig. [[6]] 6A.

Substitute the paragraph starting at page 50, line 8, with the following:

The NRD implements a NAT traversal architecture which allows System packets to enter and exit a private network. The NRD maintains persistent connections/sessions with members that are behind NAT devices. Member Agents initiate a TCP or UDP persistent connection/session with the NRD and use keep-alive messages to ensure that the NAT device does not drop the member's connection/session. The use of TCP or UDP is based on a bit set by the VCN Manager in the INIT ACK packet of the Join Protocol. Communication to a member ~~using a~~ uses NRD tunnels between the NRD and the Member Agent through the persistent connection/session. More information about a suitable NAT traversal architecture is found in U.S. Patent No. 7,139,828 and U.S. Patent Application No. ~~Applications 10/233,289, "Accessing an Entity Inside a Private~~

~~Network,; and~~ 10/233,288, "Communicating With An Entity Inside a Private Network Using an Existing Connection to Initiate Communication," both of which are incorporated herein by reference.

Substitute the paragraph starting at page 60, line 15, with the following:

Because members of a VCN register with the VCN Manager, the VCN Manager will know how to find the members (e.g. it will know its public and private addresses). Thus, a Group Agent acting as a proxy for a first member will be able to act as an intermediary for that first member when talking to a second member of a VCN even if the second member moves to a different or new private network and/or changes its IP address. That is, when the second member makes the move or change, the second member will so inform the VCN Manager. The VCN Manager will inform the Group Agent of the change so that the Group Agent can continue to act as an intermediary between the first member and the group member. More information about communicating with mobile entities can be found in U.S. Patent No. 7,139,828; ~~Application No. 10/233,289, "Accessing An Entity Inside a Private Network," filed on August 30, 2002;~~ U.S. Patent Application No. 10/161,573, "Creating A Public Identity For An Entity On A Network," filed on June 3, 2002; and U.S. Patent Application No. 10/233,288, "Communicating With An Entity Inside A Private Network Using An Existing Connection To Initiate Communication," filed on August 30, 2002, all three applications are incorporated herein by reference in their entirety.

IPR2025-00201 / 785 Patent 315 of 833 EX1002

LIST OF CLAIMS / AMENDMENTS

Claims 25 and 101 were previously canceled.

Please cancel claims 37-40, 45-52, and 67 without prejudice.

Please amend claims 1-18, 20-24, 26-36, 41-44, 53-66, 68-93, 96-99, 103-106, and 108-109 as shown herein.

Claims 1-24, 26-36, 41-44, 53-66, 68-100, and 102-109 are pending as follows:

1. (currently amended) A virtual ~~community~~ network system, comprising:

a virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, ~~including a definition of at least one virtual community, the definition comprising at least a domain name and a user set,~~ the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network; and ~~provides virtual network addresses to users in the user set when the users join the virtual community, the users are identified by one another in the virtual community by their virtual network addresses, and the virtual network addresses are not directly routable; and~~

~~at least one~~ a route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device. ~~capable of communicating with users in the user set, the at least one route director routes traffic between the users,~~

~~wherein communications between users include encapsulated packets having a source address which is the virtual network address of a first, sending user and a destination address which is the virtual network address of a second, receiving user, and the encapsulated packets are sent to the at least one route director in encapsulating packets having a destination address which is a public network address of the at least one route director.~~

2. (currently amended) The system of claim 1 wherein each of the devices communicate ~~user communicates~~ with the virtual network manager and the other devices in the virtual network ~~users in the user set via at least one~~ via an associated agent.

3. (currently amended) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network. ~~claim 2 wherein, for each user, the associated agent is installed on a processing device.~~

4. (currently amended) The system of claim 2 ~~wherein, for each user,~~ wherein the associated agent is installed on ~~an associated~~ a proxy device which is a proxy agent for ~~the user~~ one or more of the devices in the virtual network with respect to the virtual network manager and the ~~at least one~~ route director.

5. (currently amended) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

~~detects~~ detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager. ~~when an agent installed in a private network on a processing device behind the NAT device contacts the virtual network manager in an attempt to join the virtual community.~~

6. (currently amended) The system of claim 1 wherein the virtual network manager ~~comprises a device~~ is coupled to [[a]] the public network and ~~having a~~ has an associated public network address.

7. (currently amended) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director. ~~said first, sending user accesses other users in the community using at least a first processing device, and said second, receiving user accesses other users in the community using at least a second processing device.~~

8. (currently amended) The system of claim 1 wherein each of the devices in the virtual network are further identified by ~~claim 7 wherein each said processing device is configured with the virtual network address provided to the associated user and~~ at least one physical network address.

9. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual ~~community and do~~ network so as not to conflict with the private network addresses.

12. (currently amended) The system of claim 8 wherein ~~said first processing~~ the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including ~~device, the first NAT device transmits the encapsulating packets, and the encapsulating packets include a shim which includes~~ the physical network address of the ~~first processing~~ source device as a private network address in the first private network.

13. (currently amended) The system of claim 12 wherein the physical ~~addresses are~~ network address of the source device is dynamic.

14. (currently amended) The system of claim 12 wherein the physical ~~addresses are~~ network address of the source device is static.

15. (currently amended) The system of claim 12 wherein ~~said second processing~~ the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including ~~shim includes~~ the physical network address of the ~~second processing~~ destination device as a private network address in the second private network.

16. (currently amended) The system of claim 1 wherein the virtual network manager is further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device. ~~claim 15 wherein said second device includes at least one private physical address.~~

17. (currently amended) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (currently amended) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (currently amended) The system of claim 1 wherein the route director is further configured to:

~~provides a user~~ provide a device-specific pseudo address assignment for ~~at least one user in the user set~~ the device in the virtual network when the ~~at least one user~~ device communicates with the route director via a NAT ~~device,~~ device; and ~~the route director stores~~

store an association of the ~~user~~ device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (currently amended) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented ~~virtual user~~ in a private network ~~realm~~.

22. (currently amended) The system of claim 1 wherein the virtual ~~community~~ network manager is coupled to [[a]] the public network and includes a public network address.

23. (currently amended) The system of claim 22 wherein the route director is coupled to ~~said~~ the public network and includes a different public network address than the public network address of the virtual network manager.

24. (currently amended) The system of claim 22 wherein the route director is coupled to a ~~first~~ private network and includes a private network address.

25. (canceled)

26. (currently amended) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being ~~communicated between users in the user set are~~ encrypted prior to being encapsulated.

27. (currently amended) The system of claim 26 wherein ~~said encryption uses~~ the virtual IP packets are encrypted using IPSEC.

28. (currently amended) The system of claim 26 wherein ~~said encryption uses~~ the virtual IP packets are encrypted using DES or triple DES.

29. (currently amended) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect ~~detects~~ the presence of the NAT device by ~~receiving a message from the agent when the agent contacts the virtual network manager in the attempt to join the virtual community, and~~ comparing a field in a payload of the message with a source address in a header of the message.

30. (currently amended) The system of claim 1 wherein the virtual network manager includes ~~at least two~~ a virtual community ~~definitions~~ definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (currently amended) The system of claim 1 wherein the route director is a ~~further including a public route director and a private route director for routing messages among the users, the~~ public route director ~~is in a~~ in the public network, the system further comprising a ~~and the~~ private route director [[is]] in a private network configured to enable access to devices of ~~users inside~~ the private network that are also in the virtual network from devices of the public network that are also in the virtual network ~~users outside the private network~~.

32. (currently amended) A ~~system~~ virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device; and

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address.

~~a management device for a virtual community, the management device including a network interface coupled to a public address realm and having a public address; and~~

~~a network traffic router which uses router data to route traffic between members of the virtual community, the router data including at least one association of a logical identifier with public routing information for a member.~~

33. (currently amended) The ~~system~~ virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network. ~~wherein the network traffic router includes a network interface accessible to the members by a public address in the public address realm.~~

34. (currently amended) The ~~system~~ virtual network manager of claim 32 wherein the network interface is ~~management device includes~~ a UDP port configured for data communication via the virtual network ~~capable of receiving network traffic of the virtual community~~.

35. (currently amended) The ~~system~~ virtual network manager of claim 33 [[34]] wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is ~~the management device includes~~ a TCP port configured for registration communications via the public network ~~capable of communicating network traffic in the virtual community to allow the members to register and join in the virtual community~~.

36. (currently amended) The ~~system~~ virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network. ~~a first member accesses a physical network via a processing device and the system further includes at least one agent installed on the processing device, the at least one agent communicates with the network traffic router to allow the first member to communicate with another member.~~

37-40. (canceled)

41. (currently amended) The ~~system of claim 40 wherein the management device includes a member~~ virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network. ~~which allows a particular member to notify the management device via a join request that the particular member is available to participate in the virtual community, and to notify the management device via a leave request that the particular member is no longer available to participate in the virtual community.~~

42. (currently amended) The ~~system~~ virtual network manager of claim 41 wherein the join module is further configured to provide ~~provides~~ virtual network addresses to the ~~members~~ devices that are registered in the virtual network.

43. (currently amended) The ~~system~~ virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network ~~management device maintains data on an association between at least one virtual network address and at least one member~~.

44. (currently amended) The ~~system~~ virtual network manager of claim 32 further comprising a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device. ~~wherein each member receives a respective virtual network address when registering with the management device to join the virtual community, the management device includes a DNS server for the virtual community, a first member in the virtual community communicates with another member in the virtual community by querying the DNS server to determine a private network and the respective virtual network address for the another member, and to determine a public address of the network traffic router, and the first member communicates with the another member using an encapsulated packet having a source address which is the respective virtual network address of the first member and a destination address which is the respective virtual network address of the another member, by sending the encapsulated packet to the network traffic router in an encapsulating packet having a destination address which is the public address of the network traffic router, the private network address for the another member is included in the encapsulating packet and is used by the network traffic router to route the encapsulated packet to the another member.~~

45-52. (canceled)

53. (currently amended) A virtual ~~community~~ network system, comprising:

a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device; ~~community;~~

~~a route director;~~

~~at least~~ a first virtual ~~community~~ network agent associated with a first device that is registered as a member in the virtual network; ~~community member; and~~

at least a second virtual ~~community~~ network agent associated with at least a second device that is registered as a member in the virtual network; and ~~community member, the~~

a route director configured to route ~~routes~~ communications between the first device and the at least second device in the virtual network ~~community members~~ via the respective first and second virtual ~~community~~ network agents.

54. (currently amended) The system of claim 53 wherein the route director is a public network route ~~director, and~~ director that includes a public network interface and an associated public network address by which the first and second virtual ~~community~~ network agents communicate with the public network route director.

55. (currently amended) The system of claim 53 wherein the route director is a private route ~~director, and~~ director that includes a private physical network ~~address~~ interface and [[a]] an associated private physical network address.

56. (currently amended) The system of claim 53 wherein the first virtual ~~community~~ network agent is installed on [[a]] the first device for data communication via the virtual ~~used by the first community member to access a~~ network.

57. (currently amended) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, ~~address for communicating within the private physical network,~~ and has ~~a first~~ an associated virtual network address that is not directly routable and ~~, assigned by the network manager,~~ by which the first device can be identified by the at least second virtual ~~community~~ network agent from outside of the private physical network~~, the first virtual network address is not directly routable~~.

58. (currently amended) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, ~~address for communicating within the public physical network~~ and has ~~a first~~ an associated virtual network address~~, assigned by the network manager,~~ by which the first device can be identified by the at least second virtual ~~community~~ network agent.

59. (currently amended) The system of claim 53 wherein the first virtual ~~community~~ network agent is a proxy agent for the first ~~community member~~ device with respect to the network manager and the route director.

60. (currently amended) The system of claim 53 wherein the first and second ~~members~~ devices are configured to access the virtual network from ~~community via devices coupled to~~ separate private address physical realms.

61. (currently amended) The system of claim 53 wherein the ~~virtual community~~ network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (currently amended) The system of claim 53 wherein the ~~community~~ network manager includes a member authenticator configured to authenticate the devices that ~~for authenticating potential members when the potential members~~ request to register with the network manager.

63. (currently amended) The system of claim 62 wherein the network manager includes a DNS server configured to provide ~~providing~~ authoritative responses for DNS queries in the virtual network ~~community~~, the DNS server further configured to receive ~~the first virtual community agent provides~~ a DNS query from the first device ~~to the DNS server~~ to obtain the virtual network address of the at least second device ~~community member~~ for use in communicating with the second device ~~community member~~.

64. (currently amended) A method ~~for providing a secure virtual network~~, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

~~providing a virtual network manager coupled to a public network;~~

~~defining a member set of users entitled to communicate in the virtual network using associated processing devices which each have at least one physical address which is a private network address;~~

~~registering members with the manager;~~

~~assigning members respective virtual addresses which are not directly routable, the virtual addresses are unique among the members and do not conflict with the private network addresses;~~

~~configuring each of said processing devices with the virtual address assigned to the associated member; and~~

~~routing network traffic between the members in a virtual community.~~

65. (currently amended) The method of claim 64 further ~~including the step of~~ comprising providing ~~users in said member set~~ the devices in the virtual network with a communication agent.

66. (currently amended) The method of claim 65 wherein said ~~step of~~ providing ~~users~~ the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (currently amended) The method of ~~claim 65 wherein the step of registering comprises~~ claim 64 further comprising authenticating the devices as the members in the virtual network ~~with the member set~~.

69. (currently amended) The method of claim 64 further comprising ~~wherein the step of~~ defining a member set of the virtual network that includes one or more of the devices, and ~~the step of~~ assigning [[a]] the domain name that defines ~~for~~ the virtual network ~~community~~.

70. (currently amended) The method of claim 64 further comprising ~~wherein the step of defining a member set includes~~ defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device ~~member~~.

71. (currently amended) The method of claim 64 further comprising ~~wherein the step of~~ assigning [[a]] the virtual network address to the device as ~~includes assigning~~ an IPV4 compliant address.

72. (currently amended) The method of claim 71 wherein ~~the step of assigning a virtual address includes assigning a non-routable~~ the IPV4 compliant address is non-routable.

73. (currently amended) The method of claim 64 further comprising ~~wherein the step of~~ routing network traffic ~~includes routing traffic~~ via the public network from a ~~first member accessing the public network on a~~ first device having a public network address to a ~~second member accessing the public network on a~~ second device having a different public network address, the network traffic being routed as data ~~includes~~ packets having a source address which is the virtual network address of the first device ~~member~~ and a destination address which is the virtual network address of the second device, ~~member,~~ the data packets ~~are~~ being encapsulated to include ~~in packets having~~ a second source address which is ~~the~~ a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (currently amended) The method of claim 64 further comprising ~~wherein the step of~~ routing network traffic ~~includes routing traffic~~ from a first ~~member accessing the public network on a first~~ device in a private physical network having a private network address to a second ~~member accessing the public network on a second~~ device having a public network address, the network traffic being routed as data ~~includes~~ packets having a source address which is the virtual network address of the first device, ~~member,~~ a destination address which is the virtual network address of the second device, ~~member,~~ and a shim which includes the private network address, the data packets ~~are~~

being encapsulated to include ~~in packets having~~ a second destination address which is the public network address of the second device.

75. (currently amended) The method of claim 64 further comprising ~~wherein the step of~~ routing network traffic ~~includes routing traffic~~ from a first ~~member accessing the public network on a~~ device in a private physical network having a first private ~~physical~~ network address to a second ~~member accessing the public network on a~~ device in a different private physical network having a second private ~~physical~~ network address, the network traffic being routed as ~~includes~~ encapsulated packets having a source address which is the virtual network address of the first device, ~~member, and~~ a destination address which is the virtual network address of the second device, ~~member,~~ and ~~the traffic also includes~~ a shim which includes the first and second private ~~physical~~ network addresses.

76. (currently amended) The method of claim 75 wherein the first private ~~physical~~ network address and the second private ~~physical~~ network address are identical.

77. (currently amended) The method of claim 64 further ~~including the step of~~ comprising responding to DNS requests ~~for~~ received from the devices that are the members in the virtual network.

78. (currently amended) The method of claim 64 further ~~including the step of~~ comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate ~~joined status requests for registered received from the devices that are the~~ members ~~registered in the virtual network, a first registered member provides a joined status request as a query to the virtual network manager regarding a status of a second registered member, the status indicating~~ whether or not the second device ~~registered member~~ is joined to the virtual network for data communication. ~~community and therefore available to participate in the virtual community.~~

79. (currently amended) The method of claim 64 further ~~including~~ comprising applying a group policy to the devices that are registered as the members of the virtual network ~~community~~.

80. (currently amended) One or more processor readable storage media comprising ~~devices having~~ processor readable code ~~embodied thereon , said processor readable code for programming one or more processors to perform a method comprising the steps of~~ that, when executed, initiates a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

~~managing a virtual community network realm;~~

~~defining a member set of users entitled to communicate in the virtual community using associated processing devices which each have at least one physical address which is a private network address;~~

~~registering users with the virtual community to allow the users to communicate with one another via the associated processing devices;~~

~~assigning each user a virtual address which is not directly routable, the virtual addresses are unique among the users and do not conflict with the private network addresses;~~

~~configuring each of said processing devices with the virtual address assigned to the associated user; and~~

~~routing network traffic between the users in the virtual community.~~

81. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further ~~including~~ comprising processor readable code that, when executed, initiates the virtual network manager to provide the devices in the virtual network ~~for programming one or more processors to perform a step of providing users in said member set~~ with a communication agent.

82. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 81 wherein the virtual network manager provides the ~~said step of providing users with a~~ communication agent ~~includes providing~~ as a proxy agent.

83. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to define ~~wherein the step of defining~~ a member set of the virtual network that includes one or more of the devices, and ~~the step of assigning a~~ the domain name that defines the virtual network ~~for the community~~.

84. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route ~~wherein the step of routing~~ network traffic via the public network ~~includes routing traffic~~ from a ~~first member accessing the public address realm on a~~ first device having a public network address to a ~~second member accessing the public address realm on a~~ second device having a different public network address.

86. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route ~~wherein the step of routing~~ network traffic ~~includes routing traffic~~ from a first ~~member accessing the public address realm on a first~~ device in a private physical network having a private network address to a second ~~member accessing the public address realm on a second~~ device having a public network address.

87. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route ~~wherein the step of routing~~ network traffic ~~includes routing traffic~~ from a first ~~member accessing the public address realm on a~~ device in a private physical network having a first private ~~physical~~ network address to a second ~~member accessing the public address realm on a~~ device in a different private physical network having a second private ~~physical~~ network address.

88. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 87 wherein ~~the step of routing~~ the network traffic is routed ~~includes routing traffic~~ to the first or second ~~member~~ device via a NAT device.

89. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 87 wherein the first private ~~physical~~ network address and the second private ~~physical~~ network address are identical.

90. (currently amended) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets. ~~devices as defined in claim 80 85 wherein the step of said routing includes routing encapsulated traffic.~~

91. (currently amended) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as ~~devices as defined in claim 80 wherein the step of routing includes routing~~ encrypted data traffic.

92. (currently amended) One or more processor readable storage media as recited ~~devices as defined~~ in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to apply ~~further including applying~~ a group policy to the devices that are registered as the members of the virtual network ~~community~~.

93. (currently amended) A virtual ~~community~~ network system, comprising:

a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by ~~comprising at least~~ a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, and the virtual network being accessible by ~~users~~ devices in the user set and

~~users~~ devices outside of the user set~~, the manager exchanging virtual community network information with users in the user set~~.

94. (original) The system of claim 93 wherein the virtual network manager includes a member register module.

95. (original) The system of claim 93 wherein the virtual network manager includes a member join module.

96. (currently amended) The system of claim 95 wherein the member join module provides a virtual network address to a device that is registered as a member of the network.

97. (currently amended) The system of claim 93 wherein the virtual network manager ~~maintains~~ is further configured to maintain data on an association between at least one virtual network address with at least one device that is registered as a member of the network.

98. (currently amended) The system of claim 93 wherein the virtual network manager includes a DNS server for the virtual community network.

99. (currently amended) The system of claim 93 wherein the virtual network manager includes a NAT device detector for ~~users~~ devices connecting with the virtual network manager ~~using a processing device~~ behind a NAT device.

100. (previously presented) The system of claim 93 wherein the virtual network manager includes at least a second virtual community definition.

101. (canceled)

102. (original) The system of claim 93 wherein the virtual network manager includes a member authenticator.

103. (currently amended) The system of claim 93 wherein the virtual network manager includes a DNS server ~~providing~~ configured to provide authoritative responses for DNS queries from ~~users~~ devices in the virtual community.

104. (currently amended) The system of claim 93 further comprising at least one route director ~~capable of communicating with users~~ configured to communicate with the one or more devices in the user set.

105. (currently amended) The system of claim 93 wherein each device registered in the network is configured to communicate ~~user communicates~~ with the virtual network manager and other ~~users~~ devices in the user set via at least one agent.

106. (currently amended) The system of claim 93 wherein the user set includes at least a first ~~user~~ device and a second ~~user~~ device, ~~said first device configured to access user accesses other users in the virtual community using at least a first processing device, said second user accesses other users in the virtual community using at least a second processing device,~~ and wherein at least one of said first device and said second device is coupled to a first private network and accesses a public network via a NAT device.

107. (original) The system of claim 106 wherein said first device is coupled to said first private network, and said second device is coupled to a second private network and accesses the public network via a second NAT device.

108. (currently amended) The system of claim 93 wherein communications between ~~users~~ the one or more devices in the user set are encrypted.

109. (currently amended) The system of claim 108 wherein the virtual network manager is configured to provide a shared message to the one or more devices ~~provides a shared secret to users~~ in the user set to establish encrypted communications.

REMARKS

Applicant filed a Response on Nov.05, 2007 to a Final Office Action dated Jun.05, 2007 in which the Office rejected all pending claims under 35 U.S.C. §102(e) and/or 35 U.S.C. §103(a). The Office issued an Advisory Action on Nov.19, 2007 indicating that the Response did not address the patentability of the independent claims.

Applicant then filed a Response along with an RCE on Dec.04, 2007. The Office has now issued an Office Communication (*i.e.*, Notice of Non-Responsive Amendment) dated Feb.13, 2008 indicating that the Response filed on Dec.04, 2007 is not fully responsive because the Response does not address why independent claim 93 is patentable over the cited references.

Accordingly, this Response addresses the 35 U.S.C. §102(e) and 35 U.S.C. §103(a) rejections issued in the Final Office Action dated Jun.05, 2007, and all page number references herein refer to the Final Office Action.

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 37-40, 45-52, and 67 have been canceled. Claims 1-24, 26-36, 41-44, 53-66, 68-100, and 102-109 are pending, of which claims 1-18, 20-24, 26-36, 41-44, 53-66, 68-93, 96-99, 103-106, and 108-109 have been amended. The amendments to the claims are simply to provide clarification and/or to correct informalities noted by the Applicant.

Note that a copy of the claims as amended herein, but without the amendment mark-ups, is provided in the Appendix for ease of review and convenience of the Office.

35 U.S.C. §102 Claim Rejection

Claims 93-100 and 102-109 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2003/0041136 to Cheline *et al.* (hereinafter, "Cheline") (*Office Action* p.2). Applicant respectfully traverses the rejection of the claims as pending prior to the amendments included herein.

Claim 93 recites a virtual network system, comprising:

> a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, and the virtual network being accessible by devices in the user set and devices outside of the user set.

Cheline does not show or disclose "a virtual community definition that is defined by a domain name having an associated public network address", or that "each device in the virtual network is identified to the other devices by a virtual network address that is associated with the device", as recited in claim 1. The Office recognizes that Cheline does not teach a device in a virtual network being identified to the other devices by a virtual network address (*Office Action* p.5).

Accordingly, claim 93 along with dependent claims 94-100 and 102-109 are allowable over Cheline for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

35 U.S.C. §103 Claim Rejections

Claims 1-92 are rejected under 35 U.S.C. §103(a) for obviousness over Cheline, in view of U.S. Patent Publication No. 2004/0006708 to Mukherjee et al. (hereinafter, "Mukherjee") (*Office Action* p.5). Claim 25 has been canceled. Applicant respectfully traverses the rejection of the claims as pending prior to the amendments included herein.

Claim 1 recites a virtual network system, comprising:

> a virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network; and
>
> a route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

Cheline and/or Mukherjee do not teach or suggest the combination of feature(s) recited in claim 1, such as "each device in the virtual network being identified to the other devices by a virtual network address". The Office recognizes that Cheline does not teach a device in a virtual network being identified to the other devices by a virtual network address (*Office Action* p.5). The Office cites to Mukherjee ¶[0046] for virtual network addresses (*Office Action* p.6). However, Mukherjee only describes conventional IP addresses in different address classes that define the size of a network and the number of devices, such as Class-A, Class-B, and Class-C IP addresses. Mukherjee describes that a subnet address is formed for a VPN network and host addresses are assigned to

user devices (*Mukherjee* ¶[0044]-¶[0046]). The IP addresses described in Mukherjee are not virtual network addresses as recited in claim 1.

The Office also cites to Mukherjee ¶[0056] for devices being identified in a virtual network by their virtual network address (*Office Action* p.6). However, the cited section of Mukherjee only describes VPN tunnels in a communications network that extend from user devices to a router device. There is no indication or discussion in the cited ¶[0056] of a virtual network, virtual network addresses, or devices in a virtual network being identified to the other devices by their virtual network addresses, as recited in claim 1.

Cheline and/or Mukherjee also do not teach or suggest "a virtual network that is defined by a domain name", or "an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device", as recited in claim 1. Accordingly, claim 1 is allowable over the Cheline-Mukherjee combination for at least the reasons described above, and Applicant requests that the §103 rejection be withdrawn.

Claims 2-24 and 26-31 are allowable by virtue of their dependency upon claim 1 (either directly or indirectly). Accordingly, the §103 rejection should be withdrawn. Additionally, some or all of claims 2-24 and 26-31 are allowable over the Cheline-Mukherjee combination for independent reasons. For example:

Claim 3 recites that "each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network". Cheline and/or Mukherjee do not teach or suggest that the devices in a virtual network include an agent, as recited in claim 3.

Cheline describes a VPN system in which "the client VPN software resides on the user's modem instead of on the user's client computer" (*Cheline* ¶[0028]). A client-side system (108) of the VPN described in Cheline includes client computers and a modem (106) that includes the VPN software to interface the client computers with a server-side system (130) (*Cheline* ¶[0031], Figs.1-2). Mukherjee describes a VPN communications network environment that includes access networks each including various end-user devices. Each access network has an associated controller that includes an IP service agent for the end-user devices of a particular access network (*Mukherjee* ¶[0025], Figs.1-2). Accordingly, claim 3 is allowable over the Cheline-Mukherjee combination and the §103 rejection should be withdrawn.

Claim 32 recites a virtual network manager, comprising:

> a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;
>
> a register module configured to register devices in the virtual network, the register module further configured to:
>
> > receive a registration request from an agent associated with a device; and
> >
> > distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address.

Cheline and/or Mukherjee do not teach or suggest the combination of feature(s) recited in claim 32, such as "the device being identified to other devices in the virtual network by the virtual network address". As described above in response to the rejection

of claim 1, Cheline and/or Mukherjee do not teach a virtual network address, or a device being identified in a virtual network by a virtual network address, as recited in claim 32.

Cheline and/or Mukherjee also do not teach or suggest a virtual network manager of a virtual network that is defined by a domain name having an associated public network address, as recited in claim 32. Cheline describes a VPN concentrator for VPN connections in a private server-side system (*Cheline* ¶[0042], Fig.1), but not a virtual network manager in a public realm as described in claim 32. Mukherjee describes a need for multiple, independent controllers of access networks in a VPN communications system (*Mukherjee* ¶[0031]-¶[0035], Figs.1-2), but not a global virtual network manager.

Accordingly, claim 32 is allowable over the Cheline-Mukherjee combination for at least the reasons described above, and Applicant requests that the §103 rejection be withdrawn.

Claims 33-36 and 41-44 are allowable by virtue of their dependency upon claim 32 (either directly or indirectly). Accordingly, the §103 rejection should be withdrawn. Additionally, some or all of claims 33-36 and 41-44 are allowable over the Cheline-Mukherjee combination for independent reasons. For example:

Claim 35 recites the network interface is a UDP port configured for data communication via the virtual network, and the additional network interface is a TCP port configured for registration communications via the public network. Cheline and/or Mukherjee do not teach or suggest a virtual network manager that includes both a TCP port for communications via a public network and a UDP port for data communication via a virtual network, as recited in claim 35. Accordingly, claims 35 is allowable over the Cheline-Mukherjee combination and the §103 rejection should be withdrawn.

Claim 36 recites to receive the registration request from the agent that is installed on the device for data communication via the virtual network. As described above in response to the rejection of claim 3, Cheline and/or Mukherjee do not teach or suggest that a device in a virtual network includes an agent installed for data communication via a virtual network, as recited in claim 36.

Cheline describes a VPN system in which "the client VPN software resides on the user's modem instead of on the user's client computer" (*Cheline* ¶[0028], Figs.1-2). Mukherjee describes a VPN communications network environment that includes access networks each including various end-user devices that are associated with an IP service agent at an independent controller of an access network (*Mukherjee* ¶[0025], Figs.1-2). Accordingly, claim 36 is allowable over the Cheline-Mukherjee combination and the §103 rejection should be withdrawn.

Claim 53 recites a virtual network system, comprising:

> a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;
>
> a first virtual network agent associated with a first device that is registered as a member in the virtual network;
>
> at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and
>
> a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents.

Cheline and/or Mukherjee do not teach or suggest the combination of feature(s) recited in claim 53, such as "each device in the virtual network being identified to the other devices by a virtual network address associated with the device". As described above in response to the rejection of claim 1, Cheline and/or Mukherjee do not teach a virtual network address, or a device being identified in a virtual network by a virtual network address, as recited in claim 53.

Cheline and/or Mukherjee also do not teach or suggest a network manager of a virtual network that is defined by a public domain name, as recited in claim 53. Accordingly, claim 53 is allowable over the Cheline-Mukherjee combination for at least the reasons described above, and Applicant requests that the §103 rejection be withdrawn.

Claims 54-63 are allowable by virtue of their dependency upon claim 53 (either directly or indirectly). Accordingly, the §103 rejection should be withdrawn. Additionally, some or all of claims 54-63 are allowable over the Cheline-Mukherjee combination for independent reasons. For example:

Claim 56 recites that "the first virtual network agent is installed on the first device for data communication via the virtual network". As described above in response to the rejection of claim 3, Cheline and/or Mukherjee do not teach or suggest that a virtual network agent is installed on a device in a virtual network, as recited in claim 56. Accordingly, claim 56 is allowable over the Cheline-Mukherjee combination and the §103 rejection should be withdrawn.

Claim 64 recites a method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

Claim 80 recites:

One or more processor readable storage media comprising processor readable code that, when executed, initiates a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

Cheline and/or Mukherjee do not teach or suggest the combination of feature(s) recited in claims 64 and 80, such as "each device in the virtual network being identified to the other devices by a virtual network address associated with the device". As described above in response to the rejection of claim 1, Cheline and/or Mukherjee do not teach a virtual network address, or a device being identified in a virtual network by a virtual network address, as recited in claims 64 and 80.

Cheline and/or Mukherjee also do not teach or suggest a virtual network that is defined by a domain name having an associated public network address in a public network, as recited in claims 64 and 80. Cheline and/or Mukherjee also do not teach or suggest a device that is registered as member of a virtual network having both an

associated private network address and a virtual network address, as recited in claims 64 and 80.

Accordingly, claim 64 along with dependent claims 65-66 and 68-79, as well as claim 80 along with dependent claims 81-92, are allowable over the Cheline-Mukherjee combination for at least the reasons described above, and Applicant requests that the §103 rejection be withdrawn.

Conclusion

Pending claims 1-24, 26-36, 41-44, 53-66, 68-100, and 102-109 are in condition for allowance, and Applicant respectfully requests issuance of the subject application. If any issues remain that preclude issuance of the application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Mar.14, 2008

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APPENDIX OF CLAIMS AS AMENDED HEREIN WITHOUT MARK-UPS

1. (currently amended) A virtual network system, comprising:

a virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network; and

a route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

2. (currently amended) The system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent.

3. (currently amended) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network.

4. (currently amended) The system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director.

5. (currently amended) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager.

6. (currently amended) The system of claim 1 wherein the virtual network manager is coupled to the public network and has an associated public network address.

7. (currently amended) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director.

8. (currently amended) The system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address.

9. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (currently amended) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses.

12. (currently amended) The system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network.

13. (currently amended) The system of claim 12 wherein the physical network address of the source device is dynamic.

14. (currently amended) The system of claim 12 wherein the physical network address of the source device is static.

15. (currently amended) The system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network.

16. (currently amended) The system of claim 1 wherein the virtual network manager is further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device.

17. (currently amended) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (currently amended) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (currently amended) The system of claim 1 wherein the route director is further configured to:

provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and

store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (currently amended) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network.

22. (currently amended) The system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address.

23. (currently amended) The system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager.

24. (currently amended) The system of claim 22 wherein the route director is coupled to a private network and includes a private network address.

25. (canceled)

26. (currently amended) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated.

27. (currently amended) The system of claim 26 wherein the virtual IP packets are encrypted using IPSEC.

28. (currently amended) The system of claim 26 wherein the virtual IP packets are encrypted using DES or triple DES.

29. (currently amended) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message.

30. (currently amended) The system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (currently amended) The system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in the virtual network from devices of the public network that are also in the virtual network.

32. (currently amended) A virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device; and

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address.

33. (currently amended) The virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network.

34. (currently amended) The virtual network manager of claim 32 wherein the network interface is a UDP port configured for data communication via the virtual network.

35. (currently amended) The virtual network manager of claim 33 wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is a TCP port configured for registration communications via the public network.

36. (currently amended) The virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network.

37-40. (canceled)

41. (currently amended) The virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network.

42. (currently amended) The virtual network manager of claim 41 wherein the join module is further configured to provide virtual network addresses to the devices that are registered in the virtual network.

43. (currently amended) The virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network.

44. (currently amended) The virtual network manager of claim 32 further comprising a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

45-52. (canceled)

53. (currently amended) A virtual network system, comprising:

a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;

a first virtual network agent associated with a first device that is registered as a member in the virtual network;

at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and

a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents.

54. (currently amended) The system of claim 53 wherein the route director is a public network route director that includes a public network interface and an associated public network address by which the first and second virtual network agents communicate with the public network route director.

55. (currently amended) The system of claim 53 wherein the route director is a private route director that includes a private physical network interface and an associated private physical network address.

56. (currently amended) The system of claim 53 wherein the first virtual network agent is installed on the first device for data communication via the virtual network.

57. (currently amended) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, and has an associated virtual network address that is not directly routable and by which the first device can be identified by the at least second virtual network agent from outside of the private physical network.

58. (currently amended) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, and has an associated virtual network address by which the first device can be identified by the at least second virtual network agent.

59. (currently amended) The system of claim 53 wherein the first virtual network agent is a proxy agent for the first device with respect to the network manager and the route director.

60. (currently amended) The system of claim 53 wherein the first and second devices are configured to access the virtual network from separate private address physical realms.

61. (currently amended) The system of claim 53 wherein the network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (currently amended) The system of claim 53 wherein the network manager includes a member authenticator configured to authenticate the devices that request to register with the network manager.

63. (currently amended) The system of claim 62 wherein the network manager includes a DNS server configured to provide authoritative responses for DNS queries in the virtual network, the DNS server further configured to receive a DNS query from the first device to obtain the virtual network address of the at least second device for use in communicating with the second device.

64. (currently amended) A method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

65. (currently amended) The method of claim 64 further comprising providing the devices in the virtual network with a communication agent.

66. (currently amended) The method of claim 65 wherein said providing the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (currently amended) The method of claim 64 further comprising authenticating the devices as the members in the virtual network.

69. (currently amended) The method of claim 64 further comprising defining a member set of the virtual network that includes one or more of the devices, and assigning the domain name that defines the virtual network.

70. (currently amended) The method of claim 64 further comprising defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device.

71. (currently amended) The method of claim 64 further comprising assigning the virtual network address to the device as an IPV4 compliant address.

72. (currently amended) The method of claim 71 wherein the IPV4 compliant address is non-routable.

73. (currently amended) The method of claim 64 further comprising routing network traffic via the public network from a first device having a public network address to a second device having a different public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device and a destination address which is the virtual network address of the second device, the data packets being encapsulated to include a second source address which is a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (currently amended) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a private network address to a second device having a public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the private network address, the data packets being encapsulated to include a second destination address which is the public network address of the second device.

75. (currently amended) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address, the network traffic being routed as encapsulated packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the first and second private network addresses.

76. (currently amended) The method of claim 75 wherein the first private network address and the second private network address are identical.

77. (currently amended) The method of claim 64 further comprising responding to DNS requests received from the devices that are the members in the virtual network.

78. (currently amended) The method of claim 64 further comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate whether or not the second device is joined to the virtual network for data communication.

79. (currently amended) The method of claim 64 further comprising applying a group policy to the devices that are registered as the members of the virtual network.

80. (currently amended) One or more processor readable storage media comprising processor readable code that, when executed, initiates a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; and

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device.

81. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to provide the devices in the virtual network with a communication agent.

82. (currently amended) One or more processor readable storage media as recited in claim 81 wherein the virtual network manager provides the as a proxy agent.

83. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to define a member set of the virtual network that includes one or more of the devices, and the domain name that defines the virtual network.

84. (currently amended) One or more processor readable storage media as recited in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route network traffic via the public network from a first device having a public network address to a second device having a different public network address.

86. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route network traffic from a first device in a private physical network having a private network address to a second device having a public network address.

87. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to route network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address.

88. (currently amended) One or more processor readable storage media as recited in claim 87 wherein the network traffic is routed to the first or second device via a NAT device.

89. (currently amended) One or more processor readable storage media as recited in claim 87 wherein the first private network address and the second private network address are identical.

90. (currently amended) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets.

91. (currently amended) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encrypted data traffic.

92. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, when executed, initiates the virtual network manager to apply a group policy to the devices that are registered as the members of the virtual network.

93. (currently amended) A virtual network system, comprising:

a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, and the virtual network being accessible by devices in the user set and devices outside of the user set.

94. (original) The system of claim 93 wherein the virtual network manager includes a member register module.

95. (original) The system of claim 93 wherein the virtual network manager includes a member join module.

96. (currently amended) The system of claim 95 wherein the member join module provides a virtual network address to a device that is registered as a member of the network.

97. (currently amended) The system of claim 93 wherein the virtual network manager is further configured to maintain data on an association between at least one virtual network address with at least one device that is registered as a member of the network.

98. (currently amended) The system of claim 93 wherein the virtual network manager includes a DNS server for the virtual community network.

99. (currently amended) The system of claim 93 wherein the virtual network manager includes a NAT device detector for devices connecting with the virtual network manager behind a NAT device.

100. (previously presented) The system of claim 93 wherein the virtual network manager includes at least a second virtual community definition.

101. (canceled)

102. (original) The system of claim 93 wherein the virtual network manager includes a member authenticator.

103. (currently amended) The system of claim 93 wherein the virtual network manager includes a DNS server configured to provide authoritative responses for DNS queries from devices in the virtual community.

104. (currently amended) The system of claim 93 further comprising at least one route director configured to communicate with the one or more devices in the user set.

105. (currently amended) The system of claim 93 wherein each device registered in the network is configured to communicate with the virtual network manager and other devices in the user set via at least one agent.

106. (currently amended) The system of claim 93 wherein the user set includes at least a first device and a second device, and wherein at least one of said first device and said second device is coupled to a first private network and accesses a public network via a NAT device.

107. (original) The system of claim 106 wherein said first device is coupled to said first private network, and said second device is coupled to a second private network and accesses the public network via a second NAT device.

108. (currently amended) The system of claim 93 wherein communications between the one or more devices in the user set are encrypted.

109. (currently amended) The system of claim 108 wherein the virtual network manager is configured to provide a shared message to the one or more devices in the user set to establish encrypted communications.

Electronic Acknowledgement Receipt

EFS ID:	3005088
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Melissa Nelson
Filer Authorized By:	William Breen
Attorney Docket Number:	TTCC-01021US0
Receipt Date:	14-MAR-2008
Filing Date:	31-MAR-2003
Time Stamp:	19:29:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		ResponseasFiled.pdf	362909 e3e09802e8052c9f84e5b7499a9c126b24163468	yes	64

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Supplemental Response or Supplemental Amendment	1	1
	Specification	2	7
	Claims	8	33
	Applicant Arguments/Remarks Made in an Amendment	34	43
	Claims	44	64

Warnings:	
Information:	
Total Files Size (in bytes):	362909

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Document code: WFEE

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PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/403,818	03/31/2003	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
			TOTAL			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

AMENDMENT	03/14/2008	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 90	Minus	** 109	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	* 6	Minus	***8	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/ELMIRA HALL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2142
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure virtual community network system		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of $180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 50-4143. The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date Aug.21, 2008 By / Dave Morasch 42905 /
David A. Morasch
Reg. No. 42,905

PTO/SB/08a (04-07)
Approved for use through 09/30/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet | | of | |

Complete if Known	
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas
Attorney Docket Number	INNF0017

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 7068655	06/27/2006	March et al.	
		US- 7058052	06/06/2006	Westphal, Cedric	
		US- 7072337	07/04/2006	Arutyunov et al.	
		US- 7085854	08/01/2006	Keane et al.	
		US- 7110375	09/19/2006	Khalil et al.	
		US- 7028334	04/11/2006	Tuomenoksa, Mark et al.	
		US- 7028333	04/11/2006	Tuomenoksa et al.	
		US- 6154777	11/28/2000	Ebrahim	
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		US- 6421732	07/16/2002	Alkhatib	
		US- 6510154	01/21/2003	Mayers	
		US- 6708219	05/04/2004	Borella	
		US- 6731642	05/04/2004	Borella	
		US- 6722210	04/20/2004	Armstrong	
		US- 7054322	05/30/2006	D'Annunzio	
		US- 20030065785	04/03/2003	Jain, Nikhil	
		US- 2003/0219000	02/15/2005	Magret, Vincent	
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	10403818
Filing Date:	31-Mar-2003
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Filer:	William Breen/Travis Henderson
Attorney Docket Number:	TTCC-01021US0

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	3820422
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Travis Henderson
Filer Authorized By:	William Breen
Attorney Docket Number:	TTCC-01021US0
Receipt Date:	21-AUG-2008
Filing Date:	31-MAR-2003
Time Stamp:	17:32:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	2626
Deposit Account	504143
Authorized User	BREEN,WILLIAM J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	246840 9990834dc24c8bf2008e7476b8daa588283457f8	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Information Disclosure Statement Letter	1	2
Information Disclosure Statement (IDS) Filed (SB/08)	3	3

Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	30020 1b0247e3a8698c8af4e95bbc90f6c09283697746	no	2

Warnings:

Information:

Total Files Size (in bytes):	276860

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	3820422
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Travis Henderson
Filer Authorized By:	William Breen
Attorney Docket Number:	TTCC-01021US0
Receipt Date:	21-AUG-2008
Filing Date:	31-MAR-2003
Time Stamp:	17:32:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	2626
Deposit Account	504143
Authorized User	BREEN,WILLIAM J.

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Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	246840 9990834dc24c8bf2008e7476b8daa588283457f8	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Information Disclosure Statement Letter	1	2
Information Disclosure Statement (IDS) Filed (SB/08)	3	3

Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	30020 1b0247e3a8698c8af4e95bbc90f6c09283697746	no	2

Warnings:

Information:

Total Files Size (in bytes):	276860

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2142
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure virtual community network system		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Supplemental Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 50-4143 in order to have this Supplemental Information Disclosure Statement considered. The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date Oct. 18, 2008 By / Dave Morasch 42905 /
David A. Morasch
Reg. No. 42,905

PTO/SB/08a(04-07)
Approved for use through 7/31/2006. OMB 0651-0031
US Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	1

Complete if Known

Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas

Attorney Docket No: INNF0017

US PATENT DOCUMENTS

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Filing Date If Appropriate
		US-7133368	11/07/2006	Zhang, Qian et al.	02/01/2002
		US-7227864	06/05/2007	Collins, Leonard et al.	12/17/2001
		US-20030212795	11/13/2003	Harris, Adam et al.	08/08/2002
		US-20030084162	05/01/2003	Johnson, Bruce et al.	10/31/2001
		US-20020078198	06/20/2004	Buchbinder, John et al.	02/15/2002

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of cited Document	T[2]

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No [1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]

EXAMINER **DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Electronic Acknowledgement Receipt

EFS ID:	4148694
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Travis Henderson
Filer Authorized By:	William Breen
Attorney Docket Number:	INNF0017
Receipt Date:	21-OCT-2008
Filing Date:	31-MAR-2003
Time Stamp:	14:31:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017IDSforfiling.pdf	52618 dcf18961f5d5dfdecc6a064c0c45fba371444dac	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Information Disclosure Statement Letter	1	2
	Information Disclosure Statement (IDS) Filed (SB/08)	3	3
Warnings:			
Information:			
	Total Files Size (in bytes):	52618	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
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National Stage of an International Application under 35 U.S.C. 371
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New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	INNF0017	2698

75671 7590 02/04/2009

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER	
BLAIR, DOUGLAS B	
ART UNIT	PAPER NUMBER
2442	

MAIL DATE	DELIVERY MODE
02/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/403,818	ALKHATIB ET AL.	
	Examiner	Art Unit	
	DOUGLAS B. BLAIR	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24,26-36,41-44,53-66,68-100 and 102-109* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24,26-36,41-44,53-66,68-100 and 102-109* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/5/07,8/21/08, 10/21/08* .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/14/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-24, 26-36, 41-44, 53-66, 68-100, and 102-109 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-24, 26-36, 41-44, 53-66, 68-79, 93-100, and 102-109 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-24 and 26-31 are directed towards a virtual network system comprising a virtual network manager and a route director. Because these elements are disclosed as possibly being software elements they are treated as software per se. Claims 32-36, 41-44, 93-100, and 102-109 are directed towards the virtual network manager. Claims 53-63 are directed towards a system

comprising a virtual network manager, a route director, and software agents. Software per se does not fit into a statutory category of invention.

Claims 64-66 and 68-79 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claims are neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15, 17-24, 26, 29-43, 53-56, 59, 60-66, 68-87, 90-100, and 102-109 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication Number 2008/0232295 by Kreiner et al.

As to claim 1, Kreiner teaches a virtual network system, comprising: a virtual network manager configured to register devices in a virtual network that is defined by a domain name (paragraph 39), each device in the virtual network being identified to the other devices by a virtual network

address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network (paragraph 35); and a route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device (paragraph 38).

As to claim 2, Kreiner teaches the system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent (paragraphs 30-39).

As to claim 3, Kreiner teaches the system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network (paragraphs 30-39).

As to claim 4, Kreiner teaches the system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director (Figure 2, personal gateway).

As to claim 5, Kreiner teaches the system of claim 2 wherein the virtual network manager is further configured to: receive a request from the agent associated with a device in a private network to register the device in the virtual network; and detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager (paragraphs 30-39).

As to claim 6, Kreiner teaches the system of claim 1 wherein the virtual network manager is

coupled to the public network and has an associated public network address (paragraphs 30-39).

As to claim 7, Kreiner teaches the system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director (paragraphs 30-39).

As to claim 8, Kreiner teaches the system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address (paragraphs 30-39).

As to claim 9, Kreiner teaches the system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic (paragraphs 30-39).

As to claim 10, Kreiner teaches the system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static (paragraphs 30-39).

As to claim 11, Kreiner teaches the system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses (paragraphs 30-39).

As to claim 12, Kreiner teaches the system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network (paragraphs 30-39).

As to claim 13, Kreiner teaches the system of claim 12 wherein the physical network address of the source device is dynamic (paragraphs 30-39).

As to claim 14, Kreiner teaches the system of claim 12 wherein the physical network address of the source device is static (paragraphs 30-39).

As to claim 15, Kreiner teaches the system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network (paragraphs 30-39).

As to claim 17, Kreiner teaches the system of claim 15 wherein the physical network address of the destination device is dynamic (paragraphs 30-39).

As to claim 18, Kreiner teaches the system of claim 15 wherein the physical network address of the destination device is static (paragraphs 30-39).

As to claim 19, Kreiner teaches the system of claim 15 wherein said first private network and said second private network share at least one network address (paragraphs 30-39).

As to claim 20, Kreiner teaches the system of claim 1 wherein the route director is further configured to: provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device (paragraphs 30-39).

As to claim 21, Kreiner teaches the system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network (paragraphs 30-39).

As to claim 22, Kreiner teaches the system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address (paragraphs 30-39).

As to claim 23, Kreiner teaches the system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager (paragraphs 30-39).

As to claim 24, Kreiner teaches the system of claim 22 wherein the route director is coupled to a private network and includes a private network address (paragraphs 30-39).

As to claim 26, Kreiner teaches the system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated (paragraphs 30-39).

As to claim 29, Kreiner teaches the system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message (paragraphs 30-39).

As to claim 30, Kreiner teaches the system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network (paragraphs 30-39).

As to claim 31, Kreiner teaches the system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in

the virtual network from devices of the public network that are also in the virtual network (paragraphs 30-39).

As to the rest of the claims they are rejected for the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2008/0232295 by Kreiner et al.

As to claims 27-28, official notice is taken that the claimed types of encryption are well known and the applicant has not disclosed anything novel related to them so they are not themselves patentable.

Allowable Subject Matter

Claims 16 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach he claimed relation between the elements claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS B. BLAIR whose telephone number is (571)272-3893. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas B Blair/
Primary Examiner, Art Unit 2442

Notice of References Cited	Application/Control No. 10/403,818	Applicant(s)/Patent Under Reexamination ALKHATIB ET AL.	
	Examiner DOUGLAS B. BLAIR	Art Unit 2442	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0152068	08-2003	Balasaygun et al.	370/356
*	B	US-6,226,751	05-2001	Arrow et al.	726/15
*	C	US-5,754,938	05-1998	Herz et al.	725/116
*	D	US-7,107,614	09-2006	Boden et al.	726/15
*	E	US-7,107,464	09-2006	Shapira et al.	726/15
*	F	US-2006/0190607	08-2006	Lowery et al.	709/226
*	G	US-2003/0131131	07-2003	Yamada et al.	709/238
*	H	US-2001/0050914	12-2001	Akahane et al.	370/382
*	I	US-7,327,721	02-2008	Balasaygun et al.	370/352
*	J	US-2006/0212545	09-2006	Nichols et al.	709/219
*	K	US-2006/0195539	08-2006	Nichols et al.	709/206
*	L	US-2006/0195524	08-2006	Nichols et al.	709/204
*	M	US-2004/0088542	05-2004	Daude et al.	713/156

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0103931	08-2002	Mott, Charles J.	709/245
*	B	US-7,424,737	09-2008	Wesinger et al.	726/11
*	C	US-7,263,719	08-2007	Jemes et al.	726/12
*	D	US-6,961,783	11-2005	Cook et al.	709/245
*	E	US-2008/0232295	09-2008	Kreiner et al.	370/313
*	F	US-2007/0286189	12-2007	Kreiner et al.	370/389
	G	US-			
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	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10403818	ALKHATIB ET AL.
	Examiner	Art Unit
	DOUGLAS B BLAIR	2442

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10403818	ALKHATIB ET AL.
	Examiner	Art Unit
	DOUGLAS B BLAIR	2442

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
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	Examiner	Art Unit
	DOUGLAS B BLAIR	2442

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10403818	ALKHATIB ET AL.
	Examiner	Art Unit
	DOUGLAS B BLAIR	2442

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/29/2009								
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10403818	ALKHATIB ET AL.
	Examiner	Art Unit
	DOUGLAS B BLAIR	2442

SEARCHED

Class	Subclass	Date	Examiner
	update	1/28/2009	DBB

SEARCH NOTES

Search Notes	Date	Examiner
update	1/28/2009	DBB
inventor name search	1/28/2009	DBB

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	33	"virtual community" near2 network$2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:48
S2	19	S1 and @ad<"20030331"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/14 10:09
S3	5	S2 and ((private or public) with address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/13 20:00
S4	45	((virtual near (community or network)) and (private near address$3) and (public near address$3) and (IP near address$2))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/13 20:04
S5	27	S4 and @ad<"20030331"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/13 20:04
S6	53	("6226751").URPN.	USPAT	OR	OFF	2006/09/13 20:30
S7	1	"20040249911".pn.	US-PGPUB; USPAT	OR	OFF	2006/09/14 09:59
S8	139	("domain name" or DNS) with (VPN)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/14 10:08
S9	74	S8 and @ad<"20030331"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/14 10:09
S10	22	S9 and (NAT with (public or private))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:59
S11	1801	709/245.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/14 11:02

S12	454	"virtual community"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:49
S13	353	router same (public with address$3) same (private with address$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:50
S14	353	S13 same S13	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:50
S15	0	S12 same S13	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:50
S16	3	S12 and S13	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:50
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S18	387	router same (public with address$3) and router same (private with address$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:50
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S20	0	S19 and S12	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:51
S21	306	rout$3 with (public near address$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:51
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S26	0	S12 same (rout$3 with internet)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:53
S27	1	S12 same private near address $3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:54
S28	15	(community or group) same S13	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 12:54
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S32	55	((group or community) with (member$4 or belong$3)) and ((group$1 or community) same rout$3) and (NAT with (public or private))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 13:25
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S34	272055	((group or community) with (member$4 or belong$3))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 13:25
S35	6111	S34 same server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 13:25
S36	124	S35 and ((rout$3 near2 (messag$3 or communication $1)) same (firewall or NAT or private))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 13:26
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S38	35	S37 and "domain name"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/24 13:27
S39	1	"20020152297".pn.	US-PGPUB; USPAT	OR	OFF	2007/05/25 18:47
S40	706	"virtual community"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
S41	533	router same (public with address$3) same (private with address$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
S42	3	S40 and S41	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
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S44	582	router same (public with address$3) and router same (private with address$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57

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S53	77	((group or community) with (member$4 or belong$3)) and ((group$1 or community) same rout$3) and (NAT with (public or private))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
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S56	8828	S55 same server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
S57	168	S56 and ((rout$3 near2 (messag$3 or communication $1)) same (firewall or NAT or private))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/01/07 13:57
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S59	91	(S43 S45 S48 S50 S52 S54 S58) and @pd>"20070524"	US-PGPUB; USPAT	OR	OFF	2009/01/07 13:57
S60	1	"20040249911".pn.	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:00
S61	1008	(Vpn or "virtual private network") and (assign$5 near address$3) and domain$1	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:01
S62	25	(Vpn or "virtual private network") same (assign$5 near address$3) same domain $1	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:02
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S68	267	S66 same address$3	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:06
S69	106	S66 same S65	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:06
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S74	394	(Vpn or "virtual private network") and community with (public near$3 domain $1)	US-PGPUB; USPAT	OR	OFF	2009/01/07 14:35

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S94	33	(virtual near2 network) and (assign$3 near4 (virtual near2 address$3)) with regist$6	US-PGPUB; USPAT	OR	OFF	2009/01/28 10:55
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S98	200	regist$6 with (server$1 or manag$5) same (assign$5 near2 address$3) same domain$1	US-PGPUB; USPAT	OR	OFF	2009/01/28 11:09
S99	17536	(broadcast$3 or multicast$3) with ((new or join$3))	US-PGPUB; USPAT	OR	OFF	2009/01/28 11:10
S100	2	S98 same S99	US-PGPUB; USPAT	OR	OFF	2009/01/28 11:10
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S102	13	S101 and (virtual or vpn)	US-PGPUB; USPAT	OR	OFF	2009/01/28 11:12
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IPR2025-00201 / 785 Patent 421 of 833 EX1002

PTO/SB/08a (04-07)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet | | of | |

Complete if Known	
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas
Attorney Docket Number	INNF0017

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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/DB/		US- 7058052	06/06/2006	Westphal, Cedric	
/DB/		US- 7072337	07/04/2006	Arutyunov et al.	
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Examiner Signature	/Douglas Blair/	Date Considered	01/29/2009

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	1

Complete if Known

Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas

Attorney Docket No: INNF0017

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OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

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EXAMINER /Douglas Blair/ **DATE CONSIDERED** 01/29/2009

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	10403818
	Filing Date	2003-03-31
	First Named Inventor	Alkhatib
	Art Unit	2142
	Examiner Name	Blair, Douglas B.
	Attorney Docket Number	TTCC-1021US0

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/DB/	1	6983319		2006-01-03	Lu	
/DB/	2	7032242		2006-04-18	Grabelsky	
/DB/	3	7139828		2006-11-21	Alkhatib	
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	First Named Inventor	Alkhatib
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	Examiner Name	Blair, Douglas B.
	Attorney Docket Number	TTCC-1021US0

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	Attorney Docket Number	TTCC-1021US0

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
Filing Date	03/31/2003
Inventorship	Alkhatib *et al.*
Applicant	Inpro Network Facility, LLC
Group Art Unit	2442
Examiner	Blair, Douglas B.
Confirmation No.	2698
Attorney's Docket No.	INNF0017

Title: Secure Virtual Community Network System

RESPONSE TO OFFICE ACTION DATED FEBRUARY 4, 2009

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

From: David A. Morasch Tel. 509-755-7250
Fax 509-755-7252
Customer # 75671

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LIST OF CLAIMS / AMENDMENTS

Claims 25, 37-40, 45-52, 67, and 101 were previously canceled.

Please cancel claims 16 and 44 without prejudice.

Please amend claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, 92, and 93 as shown herein.

Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending:

1. (currently amended) A virtual network system, comprising:

a virtual network manager implemented as a first computing device, the virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network; ~~and~~

a route director implemented as a second computing device, the route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device; and

the virtual network manager further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device.

2. (previously presented) The system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent.

3. (previously presented) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network.

4. (previously presented) The system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director.

5. (previously presented) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager.

6. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and has an associated public network address.

7. (previously presented) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director.

8. (previously presented) The system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address.

9. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses.

12. (previously presented) The system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network.

13. (previously presented) The system of claim 12 wherein the physical network address of the source device is dynamic.

14. (previously presented) The system of claim 12 wherein the physical network address of the source device is static.

15. (previously presented) The system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network.

16. (canceled)

17. (previously presented) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (previously presented) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (previously presented) The system of claim 1 wherein the route director is further configured to:

provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and

store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (previously presented) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network.

22. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address.

23. (previously presented) The system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager.

24. (previously presented) The system of claim 22 wherein the route director is coupled to a private network and includes a private network address.

25. (canceled)

26. (previously presented) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated.

27. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using IPSEC.

28. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using DES or triple DES.

29. (previously presented) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message.

30. (previously presented) The system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (previously presented) The system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in the virtual network from devices of the public network that are also in the virtual network.

32. (currently amended) A virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device; ~~and~~

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address; and

a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

33. (previously presented) The virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network.

34. (previously presented) The virtual network manager of claim 32 wherein the network interface is a UDP port configured for data communication via the virtual network.

35. (previously presented) The virtual network manager of claim 33 wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is a TCP port configured for registration communications via the public network.

36. (previously presented) The virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network.

37-40. (canceled)

41. (previously presented) The virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network.

42. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to provide virtual network addresses to the devices that are registered in the virtual network.

43. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network.

44-52. (canceled)

53. (currently amended) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;

a first virtual network agent associated with a first device that is registered as a member in the virtual network;

at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and

a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

54. (previously presented) The system of claim 53 wherein the route director is a public network route director that includes a public network interface and an associated public network address by which the first and second virtual network agents communicate with the public network route director.

55. (previously presented) The system of claim 53 wherein the route director is a private route director that includes a private physical network interface and an associated private physical network address.

56. (previously presented) The system of claim 53 wherein the first virtual network agent is installed on the first device for data communication via the virtual network.

57. (currently amended) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, and has [[an]] the associated virtual network address that is not directly routable ~~and~~ by which the first device can be identified by the at least second virtual network agent from outside of the private physical network.

58. (currently amended) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, and has [[an]] the associated virtual network address by which the first device can be identified by the at least second virtual network agent.

59. (previously presented) The system of claim 53 wherein the first virtual network agent is a proxy agent for the first device with respect to the network manager and the route director.

60. (previously presented) The system of claim 53 wherein the first and second devices are configured to access the virtual network from separate private address physical realms.

61. (previously presented) The system of claim 53 wherein the network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (previously presented) The system of claim 53 wherein the network manager includes a member authenticator configured to authenticate the devices that request to register with the network manager.

63. (previously presented) The system of claim 62 wherein the network manager includes a DNS server configured to provide authoritative responses for DNS queries in the virtual network, the DNS server further configured to receive a DNS query from the first device to obtain the virtual network address of the at least second device for use in communicating with the second device.

64. (currently amended) A computer-implemented method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; ~~and~~

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

65. (previously presented) The method of claim 64 further comprising providing the devices in the virtual network with a communication agent.

66. (previously presented) The method of claim 65 wherein said providing the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (previously presented) The method of claim 64 further comprising authenticating the devices as the members in the virtual network.

69. (previously presented) The method of claim 64 further comprising defining a member set of the virtual network that includes one or more of the devices, and assigning the domain name that defines the virtual network.

70. (previously presented) The method of claim 64 further comprising defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device.

71. (previously presented) The method of claim 64 further comprising assigning the virtual network address to the device as an IPV4 compliant address.

72. (previously presented) The method of claim 71 wherein the IPV4 compliant address is non-routable.

73. (previously presented) The method of claim 64 further comprising routing network traffic via the public network from a first device having a public network address to a second device having a different public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device and a destination address which is the virtual network address of the second device, the data packets being encapsulated to include a second source address which is a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a private network address to a second device having a public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the private network address, the data packets being encapsulated to include a second destination address which is the public network address of the second device.

75. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address, the network traffic being routed as encapsulated packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the first and second private network addresses.

76. (previously presented) The method of claim 75 wherein the first private network address and the second private network address are identical.

77. (previously presented) The method of claim 64 further comprising responding to DNS requests received from the devices that are the members in the virtual network.

78. (previously presented) The method of claim 64 further comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate whether or not the second device is joined to the virtual network for data communication.

79. (previously presented) The method of claim 64 further comprising applying a group policy to the devices that are registered as the members of the virtual network.

80. (currently amended) One or more processor readable storage media comprising processor readable code that, ~~when~~ if executed by a computer device, ~~initiates~~ implements a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; ~~and~~

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

81. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to provide the devices in the virtual network with a communication agent.

82. (previously presented) One or more processor readable storage media as recited in claim 81 wherein the virtual network manager provides the as a proxy agent.

83. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to define a member set of the virtual network that includes one or more of the devices, and the domain name that defines the virtual network.

84. (previously presented) One or more processor readable storage media as recited in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic via the public network from a first device having a public network address to a second device having a different public network address.

86. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic from a first device in a private physical network having a private network address to a second device having a public network address.

87. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address.

88. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the network traffic is routed to the first or second device via a NAT device.

89. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the first private network address and the second private network address are identical.

90. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets.

91. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encrypted data traffic.

92. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to apply a group policy to the devices that are registered as the members of the virtual network.

93. (currently amended) A virtual network system, comprising:

a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, ~~and~~ the virtual network being accessible by devices in the user set and devices outside of the user set, and the virtual network manager further configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device.

94. (original) The system of claim 93 wherein the virtual network manager includes a member register module.

95. (original) The system of claim 93 wherein the virtual network manager includes a member join module.

96. (previously presented) The system of claim 95 wherein the member join module provides a virtual network address to a device that is registered as a member of the network.

97. (previously presented) The system of claim 93 wherein the virtual network manager is further configured to maintain data on an association between at least one virtual network address with at least one device that is registered as a member of the network.

98. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server for the virtual community network.

99. (previously presented) The system of claim 93 wherein the virtual network manager includes a NAT device detector for devices connecting with the virtual network manager behind a NAT device.

100. (previously presented) The system of claim 93 wherein the virtual network manager includes at least a second virtual community definition.

101. (canceled)

102. (original) The system of claim 93 wherein the virtual network manager includes a member authenticator.

103. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server configured to provide authoritative responses for DNS queries from devices in the virtual community.

104. (previously presented) The system of claim 93 further comprising at least one route director configured to communicate with the one or more devices in the user set.

105. (previously presented) The system of claim 93 wherein each device registered in the network is configured to communicate with the virtual network manager and other devices in the user set via at least one agent.

106. (previously presented) The system of claim 93 wherein the user set includes at least a first device and a second device, and wherein at least one of said first device and said second device is coupled to a first private network and accesses a public network via a NAT device.

107. (original) The system of claim 106 wherein said first device is coupled to said first private network, and said second device is coupled to a second private network and accesses the public network via a second NAT device.

108. (previously presented) The system of claim 93 wherein communications between the one or more devices in the user set are encrypted.

109. (previously presented) The system of claim 108 wherein the virtual network manager is configured to provide a shared message to the one or more devices in the user set to establish encrypted communications.

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 16 and 44 have been canceled. Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending, of which claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, 92, and 93 have been amended.

Allowable Subject Matter

Claims 16 and 44 are indicated as being allowable if rewritten in independent form (*Office Action* p. 8). Applicant appreciates the indication of allowability. Claim 1 has been amended to incorporate the allowable subject matter of claim 16 (now canceled), and claim 32 has been amended to incorporate the allowable subject matter of claim 44 (now canceled). The objection to claims 16 and 44 has been obviated.

Accordingly, independent claim 1 along with dependent claims 2-15, 17-24, and 26-31 are in condition for allowance. Similarly, independent claim 32 along with dependent claims 33-36 and 41-43 are in condition for allowance.

35 U.S.C. §101 Rejections

Claims 1-24, 26-36, 41-44, 53-66, 68-79, 93-100, and 102-109 are 35 U.S.C. §101 as being directed to non-statutory subject matter (*Office Action* p. 2). Specifically, the Office rejects claims 1-24 and 26-31 as software *per se* for the recited "virtual network manager" and "route director". Claims 53-63 are also rejected as software *per se* for the recited software agents. Claims 64-66 and 68-79 are rejected because the recited process is not positively tied to a particular machine or does not transform underlying subject matter (*Office Action* p. 3).

Appropriate amendments have been provided herein and Applicant requests that the §101 rejections be withdrawn.

35 U.S.C. §102 Claim Rejection

Claims 1-15, 17-24, 26, 29-43, 53-56, 59-66, 68-87, 90-100, and 102-109 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2008/0232295 to Kreiner *et al*. (hereinafter, "Kreiner") (*Office Action* p. 3). Applicant respectfully traverses the rejection in light of the claim amendments.

Applicant makes no representation that cited references are prior art. This response and any remarks or comments included herein are not intended to be, and are not to be interpreted as, an admission that the cited references are prior art. Applicant reserves the right to dispose of any cited references under 35 U.S.C. §102 and/or 35 U.S.C. §103, including but not limited to, antedating any one or more of the cited references.

Independent **Claim 1** along with dependent claims 2-15, 17-24, and 26-31, as well as independent **Claim 32** along with dependent claims 33-36 and 41-43 are in condition for allowance as described above.

Claim 53 (as amended) recites a virtual network system, comprising:

> a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;
>
> a first virtual network agent associated with a first device that is registered as a member in the virtual network;
>
> at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and
>
> a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

While the Office makes no specific rejection with respect to claim 53, the Office states that all claims above 31 are rejected for the same reasons as 1-15, 17-24, and 25-31 (*Office Action* p. 8). Kreiner does not show or disclose a "network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device", as recited in claim 53.

In rejecting claim 1, the Office cites to Kreiner at ¶[0039] for a virtual network manager configured to register devices in a virtual network (*Office Action* p. 3). Although the cited section of Kreiner describes "an exemplary framework of the data flow through a personal digital gateway, a connected communications device, and/or a connected network, Kreiner does not describe that the devices in the exemplary framework are ever ***registered in a virtual network***, as recited in claim 53.

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Kreiner also does not show or disclose "the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device", as recited in claim 53.

With reference to the rejection of claim 1, the Office cites to Kreiner at ¶[0038] for data being communicated as encapsulated packets from a source device to a destination device (*Office Action* p. 4). Kreiner only describes maintaining information about each communications device, such as network routing that provides a virtual private router that tunnels the user's network access to any communications device connected with the personal gateway (*Kreiner* ¶[0038]). However, there is no indication in Kreiner that data is being communicated between devices as encapsulated packets. Moreover, the virtual private router in Kreiner that tunnels access to any of the communication devices indicates that the only method of access for the devices is through the single user access. This single user access for multiple devices is contrary to a first virtual network address that corresponds to a first device and a second virtual network address that corresponds to a second device", as recited in claim 53.

Accordingly, claim 53 along with dependent claims 54-63 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 64 (as amended) recites a computer-implemented method, comprising:

> receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;
>
> distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and
>
> routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 64, such as "devices that request to be registered as members of a virtual network" and "routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

Accordingly, claim 64 along with dependent claims 65, 66, and 68-79 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 80 (as amended) recites a virtual network manager to "receive registration requests from devices that request to be registered as members of a virtual network" and "manage communications routed between the devices that are registered in the virtual

network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 80. Accordingly, claim 80 along with dependent claims 81-92 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 93 recites virtual network manager "configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device."

Claim 93 recites allowable subject matter as incorporated into claims 1 and 32 as described above. Accordingly, claim 93 along with dependent claims 94-100 and 102-109 are allowable over Kreiner, and Applicant requests that the §102 rejection be withdrawn.

35 U.S.C. §103 Claim Rejection

Claims 27 and 28 are rejected under 35 U.S.C. §103(a) for obviousness over Kreiner (*Office Action* p. 8). The Office takes official notice that the claimed types of encryption are well known. Claims 27 and 28 depend from allowable claim 1 as described above. Accordingly, claims 27 and 28 are in condition for allowance, and Applicant requests that the §103 rejection be withdrawn.

Conclusion

Applicant submits that pending claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are in condition for allowance, and respectfully requests issuance of the subject application. If any issues remain that preclude issuance of the application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: May 29, 2009

By: / Dave Morasch 42905 /
David A. Morasch
SBMC, p.s.
Reg. No. 42,905
(509) 755-7250

IPR2025-00201 / 785 Patent 465 of 833 EX1002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2142
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure Virtual Community Network System		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq*., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of $180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 50-4143. The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date May 29, 2009 By / Dave Morasch 42905 /
David A. Morasch
Reg. No. 42,905

PTO/SB/08a(04-07)
Approved for use through 7/31/2006. OMB 0651-0031
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

	Complete if Known
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas

Sheet	1	of	1	Attorney Docket No: INNF0017

US PATENT DOCUMENTS

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Filing Date If Appropriate
		US-20020026525	02/28/2002	Armitage, Grenville J.	04/03/2001

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of cited Document	T[2]

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No [1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		TANENBAUM, ANDREW S., "Computer Networks", Third Edition,(1996),1-37	
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		FRANCIS, PAUL et al., "IPNL: A NAT-Extended Internet Architecture", SIGCOMM'01, (08/01/08),69-79	
		PERKINS, CHARLES E., "Mobile IP", IEEE Communications Magazine, Sun Microsystems,(May 1997),84-99	
		TERAOKA, FUMIO et al., "VIP: A Protocol Providing Host Mobility", Communications of the ACM, Volume 37, No. 8,(August 1994),67-75, 113	
		TSUCHIYA, PAUL F., et al., "Extending the IP Internet Through Address Reuse", ACM SIGCOMM Computer Communication Review, (January 1993),16-33	
		VENTERS, TRACY "Demystifying Protocols: A Comparison of Protocols Suitable for IP Telephony", Sonus Networks, (2000),1-11	
		YALAGANDULA, PRAVEEN et al., "Transparent Mobility with Minimal Infrastucture", University of Texas at Austin, (July 2001),1-14	

EXAMINER **DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

PTO/SB/17 (10-07)
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2008

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 0.00

Complete if Known	
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Hasan S. Alkhatib et.al
Examiner Name	Douglas B. Blair
Art Unit	2142
Attorney Docket No.	INNF0017

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 50-4143 Deposit Account Name: Sadler, Breen, Morasch & Colby, ps

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☑ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☑ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	310	155	510	255	210	105	
Design	210	105	100	50	130	65	
Plant	210	105	310	155	160	80	
Reissue	310	155	510	255	620	310	
Provisional	210	105	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	210	105
Multiple dependent claims	370	185

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
0	- 20 or HP =	0	x 52.00	=	0.00

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
0	- 3 or HP =	0	x 220.00	=	0.00

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims Fee ($)	Fee Paid ($)
0.00	0.00

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $260 ($130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____	(round **up** to a whole number) x	_____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): _____	

SUBMITTED BY

Signature	/ Dave Morasch 42905 /	Registration No. (Attorney/Agent) 42,905	Telephone 509-755-7250
Name (Print/Type)	David A. Morasch		Date 05/29/2009

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	10403818
Filing Date:	31-Mar-2003
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Filer:	David Anthony Morasch/Travis R Henderson
Attorney Docket Number:	INNF0017

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	1251	1	130	130

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**310**

Electronic Acknowledgement Receipt

EFS ID:	5424495
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	David Anthony Morasch/Travis R Henderson
Filer Authorized By:	David Anthony Morasch
Attorney Docket Number:	INNF0017
Receipt Date:	29-MAY-2009
Filing Date:	31-MAR-2003
Time Stamp:	18:26:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$310
RAM confirmation Number	4794
Deposit Account	504143
Authorized User	SADLER,LANCE R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017OAResponse.pdf	205487 4076a8fd9791f208d07293b1ed98e548f7355633	yes	29

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	22
Applicant Arguments/Remarks Made in an Amendment	23	29

Warnings:

Information:

2		INNF0017IDS.pdf	161583 9c39bd929387fd298ff387cc0c450291d246c95f	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Transmittal Letter	1	2
Information Disclosure Statement (IDS) Filed (SB/08)	3	3

Warnings:

Information:

3	Fee Worksheet (PTO-875)	BlankFeeTransmittal.pdf	63943 d81a3e7345111263614409100366a5bfba946582	no	1

Warnings:

Information:

4	NPL Documents	Chatel.pdf	1290554 88c76bcd63282a51bf2134a443ede1a6ddec9f5b	no	35

Warnings:

Information:

5	NPL Documents	ComputerNetworks.pdf	2404732 55e0de3edcab592c196bb25c6459ff6a971511bd	no	37

Warnings:					
Information:					
6	NPL Documents	Finseth.pdf	738727 925c627383ea6b184573ca0ffe51dbc403d1d863	no	18
Warnings:					
Information:					
7	NPL Documents	Francis.pdf	1066865 001f9774eb9d02f3c53c5e5210b1b91417a9418e	no	11
Warnings:					
Information:					
8	NPL Documents	HelpSectionExcerpts.pdf	114370 7e10cb3a5eaf1a50f9adb0eebaa7f0c7d8b3eb0a	no	3
Warnings:					
Information:					
9	NPL Documents	Perkins.pdf	1754642 706388f75f63724c6e4a91b75d5249e556886443	no	12
Warnings:					
Information:					
10	NPL Documents	Teraoka.pdf	1080737 9ccdc4b67f5a84bbd9bc0275b7e909bec638962a	no	11
Warnings:					
Information:					
11	NPL Documents	Tsuchiya.pdf	988720 8447c429d0e777c3b85770b9fea9414b7e8aa277	no	19
Warnings:					
Information:					
12	NPL Documents	Venters.pdf	1381557 5d775351f2fcf836bb1da1641a7c8575a84d44e4	no	12
Warnings:					
Information:					
13	NPL Documents	Yalagandula.pdf	1139013 3f2cc8bb9ba82eb25168103f694a46cd545e0e5c	no	15
Warnings:					
Information:					
14	Fee Worksheet (PTO-875)	fee-info.pdf	31735 0492ff68f0ada3ac4dd4d2140e9bb7448d3ce74d	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	12422665

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
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Electronic Acknowledgement Receipt

EFS ID:	5424495
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	David Anthony Morasch/Travis R Henderson
Filer Authorized By:	David Anthony Morasch
Attorney Docket Number:	INNF0017
Receipt Date:	29-MAY-2009
Filing Date:	31-MAR-2003
Time Stamp:	18:26:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$310
RAM confirmation Number	4794
Deposit Account	504143
Authorized User	SADLER,LANCE R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017OAResponse.pdf	205487 4076a8fd9791f208d07293b1ed98e548f7355633	yes	29

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	22
Applicant Arguments/Remarks Made in an Amendment	23	29

Warnings:

Information:

2		INNF0017IDS.pdf	161583 9c39bd929387fd298ff387cc0c450291d246c95f	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Transmittal Letter	1	2
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Warnings:

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Information:

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Information:

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Warnings:					
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6	NPL Documents	Finseth.pdf	738727 925c627383ea6b184573ca0ffe51dbc403d1d863	no	18
Warnings:					
Information:					
7	NPL Documents	Francis.pdf	1066865 001f9774eb9d02f3c53c5e5210b1b91417a9418e	no	11
Warnings:					
Information:					
8	NPL Documents	HelpSectionExcerpts.pdf	114370 7e10cb3a5eaf1a50f9adb0eebaa7f0c7d8b3eb0a	no	3
Warnings:					
Information:					
9	NPL Documents	Perkins.pdf	1754642 706388f75f63724c6e4a91b75d5249e556886443	no	12
Warnings:					
Information:					
10	NPL Documents	Teraoka.pdf	1080737 9ccdc4b67f5a84bbd9bc0275b7e909bec638962a	no	11
Warnings:					
Information:					
11	NPL Documents	Tsuchiya.pdf	988720 8447c429d0e777c3b85770b9fea9414b7e8aa277	no	19
Warnings:					
Information:					
12	NPL Documents	Venters.pdf	1381557 5d775351f2fcf836bb1da1641a7c8575a84d44e4	no	12
Warnings:					
Information:					
13	NPL Documents	Yalagandula.pdf	1139013 3f2cc8bb9ba82eb25168103f694a46cd545e0e5c	no	15
Warnings:					
Information:					
14	Fee Worksheet (PTO-875)	fee-info.pdf	31735 0492ff68f0ada3ac4dd4d2140e9bb7448d3ce74d	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	12422665

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New International Application Filed with the USPTO as a Receiving Office
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PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/403,818	03/31/2003	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☐ RATE ($)	SMALL ENTITY ☐ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 05/29/2009	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 92	Minus	** 109	= 0	X $ =		OR	X $52=	0
Independent (37 CFR 1.16(h))	* 6	Minus	***8	= 0	X $ =		OR	X $220=	0
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/Theresa Dawkins/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/08a(04-07)
Approved for use through 7/31/2006. OMB 0651-0031
US Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

	Complete if Known
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2142
Examiner Name	Blair, Douglas

Sheet	1	of	1	Attorney Docket No: INNF0017

US PATENT DOCUMENTS

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Filing Date If Appropriate
		US-20060190607	08/24/2006	Lowery	
		US-20060195539	08/31/2006	Nichols et al.	
		US-20040088542	05/06/2004	Daude	
		US-20020103931	08/01/2002	Mott, Charles	
		US-20080232295	09/25/2008	Kreiner et al.	
		US-20070286189	12/13/2007	Kreiner et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of cited Document	T^2

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No [1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T^2
		"Non Final Office Action", Application Serial No. 10/161,573, (5/26/2009),39 pages	
		"Non Final Office Action", Application Serial No. 10/403,829, (6/22/2009),26 pages	
		FRANCIS, GUMMADI "IPNL: A NAT-Extended Internet Architecture", SIGCOMM '01, (August 2001),69-79	

EXAMINER **DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Electronic Patent Application Fee Transmittal

Application Number:	10403818
Filing Date:	31-Mar-2003
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Filer:	William Breen/Kenneth Linder
Attorney Docket Number:	INNF0017

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	5851879
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Kenneth Linder
Filer Authorized By:	William Breen
Attorney Docket Number:	INNF0017
Receipt Date:	07-AUG-2009
Filing Date:	31-MAR-2003
Time Stamp:	17:07:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	3067
Deposit Account	504143
Authorized User	SADLER,LANCE R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017IDS.pdf	163720 d579c64072c4721ba76a4aee749ba6857b5f4232	yes	3
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Transmittal Letter		1	2	
	Information Disclosure Statement (IDS) Filed (SB/08)		3	3	
Warnings:					
Information:					
2	NPL Documents	INNF0015NFOA52609.pdf	794338 a677a31086a2b1b1d0ad455f05a9844512715d6e	no	30
Warnings:					
Information:					
3	NPL Documents	INNF0018NFOA62209.pdf	1031739 d9a6505d4aaffb0f28ab9dbf14ddbe14523b2d74	no	26
Warnings:					
Information:					
4	NPL Documents	INNF0019OA3Final.pdf	393136 fec88aa35b39a14f5e70d9a5a205bf48c1b53a09	no	15
Warnings:					
Information:					
5	NPL Documents	Gummadi.pdf	245129 9649d3fba066fcb8e6351a73bc9d16de01643c03	no	12
Warnings:					
Information:					
6	Fee Worksheet (PTO-875)	fee-info.pdf	30019 8209e99269f72c375dbdb8467e3dfede0752c7c5	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2658081		

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New International Application Filed with the USPTO as a Receiving Office

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2142
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure virtual community network system		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq*., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of $180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 50-4143. The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date August 7, 2009 By / Dave Morasch 42905 /
David A. Morasch
Reg. No. 42,905

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	INNF0017	2698

75671 7590 09/29/2009

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER	
BLAIR, DOUGLAS B	
ART UNIT	PAPER NUMBER
2442	

MAIL DATE	DELIVERY MODE
09/29/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10403818	3/31/03	ALKHATIB ET AL.	INNF0017

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER	
DOUGLAS B. BLAIR	
ART UNIT	**PAPER**
2442	20090928

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

The applicant's response filed on 5/29/2009 was not fully responsive to the office action mailed on 2/4/2009 for the reasons explained on the following page of this letter.

/Douglas B Blair/
Primary Examiner, Art Unit 2442

PTO-90C (Rev.04-03)

Notice of Non-Responsive Amendment

The reply filed on 5/29/2009 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s): The applicant did not provide an argument against the 35 USC section 101 rejection of independent claim 93. See 37 CFR 1.111. Since the above-mentioned reply appears to be *bona fide*, applicant is given **ONE (1) MONTH or THIRTY (30) DAYS** from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS B. BLAIR whose telephone number is (571)272-3893. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas B Blair/
Primary Examiner, Art Unit 2442

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
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Title: Secure Virtual Community Network System

RESPONSE TO OFFICE ACTION DATED FEBRUARY 4, 2009 &

NOTICE OF NON-RESPONSIVE AMENDMENT DATED SEPTEMBER 29, 2009

To: Commissioner for Patents
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LIST OF CLAIMS / AMENDMENTS

Claims 25, 37-40, 45-52, 67, and 101 were previously canceled.

Please cancel claims 16 and 44 without prejudice.

Please amend claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, 92, and 93 as shown herein.

Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending:

1. (currently amended) A virtual network system, comprising:

a virtual network manager implemented as a first computing device, the virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network; ~~and~~

a route director implemented as a second computing device, the route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device; and

the virtual network manager further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device.

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2. (previously presented) The system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent.

3. (previously presented) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network.

4. (previously presented) The system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director.

5. (previously presented) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager.

6. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and has an associated public network address.

7. (previously presented) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director.

8. (previously presented) The system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address.

9. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses.

12. (previously presented) The system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network.

13. (previously presented) The system of claim 12 wherein the physical network address of the source device is dynamic.

14. (previously presented) The system of claim 12 wherein the physical network address of the source device is static.

15. (previously presented) The system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network.

16. (canceled)

17. (previously presented) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (previously presented) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (previously presented) The system of claim 1 wherein the route director is further configured to:

provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and

store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (previously presented) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network.

22. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address.

23. (previously presented) The system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager.

24. (previously presented) The system of claim 22 wherein the route director is coupled to a private network and includes a private network address.

25. (canceled)

26. (previously presented) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated.

27. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using IPSEC.

28. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using DES or triple DES.

29. (previously presented) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message.

30. (previously presented) The system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (previously presented) The system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in the virtual network from devices of the public network that are also in the virtual network.

32. (currently amended) A virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device; ~~and~~

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address; and

a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

33. (previously presented) The virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network.

34. (previously presented) The virtual network manager of claim 32 wherein the network interface is a UDP port configured for data communication via the virtual network.

35. (previously presented) The virtual network manager of claim 33 wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is a TCP port configured for registration communications via the public network.

36. (previously presented) The virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network.

37-40. (canceled)

41. (previously presented) The virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network.

42. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to provide virtual network addresses to the devices that are registered in the virtual network.

43. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network.

44-52. (canceled)

53. (currently amended) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;

a first virtual network agent associated with a first device that is registered as a member in the virtual network;

at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and

a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

54. (previously presented) The system of claim 53 wherein the route director is a public network route director that includes a public network interface and an associated public network address by which the first and second virtual network agents communicate with the public network route director.

55. (previously presented) The system of claim 53 wherein the route director is a private route director that includes a private physical network interface and an associated private physical network address.

56. (previously presented) The system of claim 53 wherein the first virtual network agent is installed on the first device for data communication via the virtual network.

57. (currently amended) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, and has [[an]] the associated virtual network address that is not directly routable ~~and~~ by which the first device can be identified by the at least second virtual network agent from outside of the private physical network.

58. (currently amended) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, and has [[an]] the associated virtual network address by which the first device can be identified by the at least second virtual network agent.

59. (previously presented) The system of claim 53 wherein the first virtual network agent is a proxy agent for the first device with respect to the network manager and the route director.

60. (previously presented) The system of claim 53 wherein the first and second devices are configured to access the virtual network from separate private address physical realms.

61. (previously presented) The system of claim 53 wherein the network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (previously presented) The system of claim 53 wherein the network manager includes a member authenticator configured to authenticate the devices that request to register with the network manager.

63. (previously presented) The system of claim 62 wherein the network manager includes a DNS server configured to provide authoritative responses for DNS queries in the virtual network, the DNS server further configured to receive a DNS query from the first device to obtain the virtual network address of the at least second device for use in communicating with the second device.

64. (currently amended) A computer-implemented method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; ~~and~~

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

65. (previously presented) The method of claim 64 further comprising providing the devices in the virtual network with a communication agent.

66. (previously presented) The method of claim 65 wherein said providing the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (previously presented) The method of claim 64 further comprising authenticating the devices as the members in the virtual network.

69. (previously presented) The method of claim 64 further comprising defining a member set of the virtual network that includes one or more of the devices, and assigning the domain name that defines the virtual network.

70. (previously presented) The method of claim 64 further comprising defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device.

71. (previously presented) The method of claim 64 further comprising assigning the virtual network address to the device as an IPV4 compliant address.

72. (previously presented) The method of claim 71 wherein the IPV4 compliant address is non-routable.

73. (previously presented) The method of claim 64 further comprising routing network traffic via the public network from a first device having a public network address to a second device having a different public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device and a destination address which is the virtual network address of the second device, the data packets being encapsulated to include a second source address which is a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a private network address to a second device having a public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the private network address, the data packets being encapsulated to include a second destination address which is the public network address of the second device.

75. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address, the network traffic being routed as encapsulated packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the first and second private network addresses.

76. (previously presented) The method of claim 75 wherein the first private network address and the second private network address are identical.

77. (previously presented) The method of claim 64 further comprising responding to DNS requests received from the devices that are the members in the virtual network.

78. (previously presented) The method of claim 64 further comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate whether or not the second device is joined to the virtual network for data communication.

79. (previously presented) The method of claim 64 further comprising applying a group policy to the devices that are registered as the members of the virtual network.

80. (currently amended) One or more processor readable storage media comprising processor readable code that, ~~when~~ if executed by a computer device, ~~initiates~~ implements a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address; ~~and~~

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

81. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to provide the devices in the virtual network with a communication agent.

82. (previously presented) One or more processor readable storage media as recited in claim 81 wherein the virtual network manager provides the as a proxy agent.

83. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to define a member set of the virtual network that includes one or more of the devices, and the domain name that defines the virtual network.

84. (previously presented) One or more processor readable storage media as recited in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic via the public network from a first device having a public network address to a second device having a different public network address.

86. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic from a first device in a private physical network having a private network address to a second device having a public network address.

87. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to route network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address.

88. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the network traffic is routed to the first or second device via a NAT device.

89. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the first private network address and the second private network address are identical.

90. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets.

91. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encrypted data traffic.

92. (currently amended) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, ~~when~~ if executed, ~~initiates~~ implements the virtual network manager to apply a group policy to the devices that are registered as the members of the virtual network.

93. (currently amended) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, ~~and~~ the virtual network being accessible by devices in the user set and devices outside of the user set, and the virtual network manager further configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device.

94. (original) The system of claim 93 wherein the virtual network manager includes a member register module.

95. (original) The system of claim 93 wherein the virtual network manager includes a member join module.

96. (previously presented) The system of claim 95 wherein the member join module provides a virtual network address to a device that is registered as a member of the network.

97. (previously presented) The system of claim 93 wherein the virtual network manager is further configured to maintain data on an association between at least one virtual network address with at least one device that is registered as a member of the network.

98. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server for the virtual community network.

99. (previously presented) The system of claim 93 wherein the virtual network manager includes a NAT device detector for devices connecting with the virtual network manager behind a NAT device.

100. (previously presented) The system of claim 93 wherein the virtual network manager includes at least a second virtual community definition.

101. (canceled)

102. (original) The system of claim 93 wherein the virtual network manager includes a member authenticator.

103. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server configured to provide authoritative responses for DNS queries from devices in the virtual community.

104. (previously presented) The system of claim 93 further comprising at least one route director configured to communicate with the one or more devices in the user set.

105. (previously presented) The system of claim 93 wherein each device registered in the network is configured to communicate with the virtual network manager and other devices in the user set via at least one agent.

106. (previously presented) The system of claim 93 wherein the user set includes at least a first device and a second device, and wherein at least one of said first device and said second device is coupled to a first private network and accesses a public network via a NAT device.

107. (original) The system of claim 106 wherein said first device is coupled to said first private network, and said second device is coupled to a second private network and accesses the public network via a second NAT device.

108. (previously presented) The system of claim 93 wherein communications between the one or more devices in the user set are encrypted.

109. (previously presented) The system of claim 108 wherein the virtual network manager is configured to provide a shared message to the one or more devices in the user set to establish encrypted communications.

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 16 and 44 have been canceled. Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending, of which claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, 92, and 93 have been amended.

Notice of Non-Responsive Amendment

The Office indicates that the Response filed May 29, 2009 was not fully responsive because an argument against the §101 rejection of claim 93 was not provided. In the Office Action, claim 93 was rejected as being directed to non-statutory subject matter, namely the recited "virtual network manager". Applicant has amended the Response herein. Specifically, claim 93 has been amended to recite "a computing device that includes at least a memory and a processor configured to implement a virtual network manager…". Accordingly, Applicant submits that the Response is now fully responsive.

Allowable Subject Matter

Claims 16 and 44 are indicated as being allowable if rewritten in independent form (*Office Action* p. 8). Applicant appreciates the indication of allowability. Claim 1 has been amended to incorporate the allowable subject matter of claim 16 (now canceled), and claim 32 has been amended to incorporate the allowable subject matter of claim 44 (now canceled). The objection to claims 16 and 44 has been obviated.

Accordingly, independent claim 1 along with dependent claims 2-15, 17-24, and 26-31 are in condition for allowance. Similarly, independent claim 32 along with dependent claims 33-36 and 41-43 are in condition for allowance.

35 U.S.C. §101 Rejections

Claims 1-24, 26-36, 41-44, 53-66, 68-79, 93-100, and 102-109 are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter (*Office Action* p. 2). Specifically, the Office rejects claims 1-24 and 26-31 as software *per se* for the recited "virtual network manager" and "route director". Claims 53-63 are also rejected as software *per se* for the recited software agents. Claims 64-66 and 68-79 are rejected because the recited process is not positively tied to a particular machine or does not transform underlying subject matter (*Office Action* p. 3).

Appropriate amendments have been provided herein and Applicant requests that the §101 rejections be withdrawn.

35 U.S.C. §102 Claim Rejection

Claims 1-15, 17-24, 26, 29-43, 53-56, 59-66, 68-87, 90-100, and 102-109 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2008/0232295 to Kreiner *et al*. (hereinafter, "Kreiner") (*Office Action* p. 3). Applicant respectfully traverses the rejection in light of the claim amendments.

Applicant makes no representation that cited references are prior art. This response and any remarks or comments included herein are not intended to be, and are not to be interpreted as, an admission that the cited references are prior art. Applicant reserves the right to dispose of any cited references under 35 U.S.C. §102 and/or 35 U.S.C. §103, including but not limited to, antedating any one or more of the cited references.

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Independent **Claim 1** along with dependent claims 2-15, 17-24, and 26-31, as well as independent **Claim 32** along with dependent claims 33-36 and 41-43 are in condition for allowance as described above.

Claim 53 (as amended) recites a virtual network system, comprising:

> a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;
>
> a first virtual network agent associated with a first device that is registered as a member in the virtual network;
>
> at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and
>
> a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

While the Office makes no specific rejection with respect to claim 53, the Office states that all claims above 31 are rejected for the same reasons as 1-15, 17-24, and 25-31 (*Office Action* p. 8). Kreiner does not show or disclose a "network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device", as recited in claim 53.

In rejecting claim 1, the Office cites to Kreiner at ¶[0039] for a virtual network manager configured to register devices in a virtual network (*Office Action* p. 3).

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Although the cited section of Kreiner describes "an exemplary framework of the data flow through a personal digital gateway, a connected communications device, and/or a connected network, Kreiner does not describe that the devices in the exemplary framework are ever ***registered in a virtual network***, as recited in claim 53.

Kreiner also does not show or disclose "the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device", as recited in claim 53.

With reference to the rejection of claim 1, the Office cites to Kreiner at ¶[0038] for data being communicated as encapsulated packets from a source device to a destination device (*Office Action* p. 4). Kreiner only describes maintaining information about each communications device, such as network routing that provides a virtual private router that tunnels the user's network access to any communications device connected with the personal gateway (*Kreiner* ¶[0038]). However, there is no indication in Kreiner that data is being communicated between devices as encapsulated packets. Moreover, the virtual private router in Kreiner that tunnels access to any of the communication devices indicates that the only method of access for the devices is through the single user access. This single user access for multiple devices is contrary to a first virtual network address that corresponds to a first device and a second virtual network address that corresponds to a second device", as recited in claim 53.

Accordingly, claim 53 along with dependent claims 54-63 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 64 (as amended) recites a computer-implemented method, comprising:

> receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;
>
> distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and
>
> routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 64, such as "devices that request to be registered as members of a virtual network" and "routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

Accordingly, claim 64 along with dependent claims 65, 66, and 68-79 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 80 (as amended) recites a virtual network manager to "receive registration requests from devices that request to be registered as members of a virtual network" and "manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 80. Accordingly, claim 80 along with dependent claims 81-92 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 93 recites virtual network manager "configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device."

Claim 93 recites allowable subject matter as incorporated into claims 1 and 32 as described above. Accordingly, claim 93 along with dependent claims 94-100 and 102-109 are allowable over Kreiner, and Applicant requests that the §102 rejection be withdrawn.

35 U.S.C. §103 Claim Rejection

Claims 27 and 28 are rejected under 35 U.S.C. §103(a) for obviousness over Kreiner (*Office Action* p. 8). The Office takes official notice that the claimed types of encryption are well known. Claims 27 and 28 depend from allowable claim 1 as described above. Accordingly, claims 27 and 28 are in condition for allowance, and Applicant requests that the §103 rejection be withdrawn.

Conclusion

Applicant submits that pending claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are in condition for allowance, and respectfully requests issuance of the subject application. If any issues remain that preclude issuance of the application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Oct. 24, 2009

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Electronic Acknowledgement Receipt

EFS ID:	6326650
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
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Customer Number:	75671
Filer:	William Breen/Kenneth Linder
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Receipt Date:	26-OCT-2009
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Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017Response5.pdf	215150 f99ec609676ea060712199fbedaea1317d41f8c3	yes	29

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	22
	Applicant Arguments/Remarks Made in an Amendment	23	29
Warnings:			
Information:			
	Total Files Size (in bytes):	215150	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/403,818	03/31/2003	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☐ RATE ($)	SMALL ENTITY ☐ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 10/26/2009	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 92	Minus	** 109	= 0	X $ =		OR	X $52=	0
Independent (37 CFR 1.16(h))	* 6	Minus	***8	= 0	X $ =		OR	X $220=	0
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DALE HALL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
Filing Date	03/31/2003
Inventorship	Alkhatib *et al.*
Applicant	Inpro Network Facility, LLC
Group Art Unit	2442
Examiner	Blair, Douglas B.
Confirmation No.	2698
Attorney's Docket No.	INNF0017

Title: Secure Virtual Community Network System

REFUND BRANCH

To: Mail Stop 16
Director of the US Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

From: William J. Breen, III (Tel. 509-755-7253; Fax 509-755-7252)

Customer No. 75671

REQUEST FOR REFUND UNDER 37 C.F.R. § 1.26(A)

On 2/13/2008 a Notice of Non-Compliant Amendment was mailed with a response deadline of 1 month or 30 days, whichever was longer. Due to February having 28 days, the 30-day deadline was 3/15/2008. The response was filed on 3/14/2008, but the office charged a one-month extension of time fee to our deposit account, which was not required. We hereby request the charge of $120 to be credited to the deposit account to which the fee was charged (50-4143), according to 37 C.F.R. § 1.26.

Respectfully Submitted,

Dated: December 3, 2009

By: /William J. Breen, III/
William J. Breen, III
Sadler, Breen, Morasch & Colby
Reg. No. 45,313
(509) 755-7253

Electronic Acknowledgement Receipt

EFS ID:	6568812
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	David Anthony Morasch/Bekah Glass
Filer Authorized By:	David Anthony Morasch
Attorney Docket Number:	INNF0017
Receipt Date:	03-DEC-2009
Filing Date:	31-MAR-2003
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Application Type:	Utility under 35 USC 111(a)

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Refund Request	INNF0017RefundRequest.pdf	64281 24ddc3eea948748f1192f9d5096f4e4d0a37c2ed	no	1

Warnings:	
Information:	

Total Files Size (in bytes):	64281

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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New International Application Filed with the USPTO as a Receiving Office
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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	INNF0017	2698

75671 7590 02/05/2010

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER
BLAIR, DOUGLAS B

ART UNIT	PAPER NUMBER
2442	

NOTIFICATION DATE	DELIVERY MODE
02/05/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@sbmc-law.com

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No.	Applicant(s)	
	10/403,818	ALKHATIB ET AL.	
	Examiner	Art Unit	
	DOUGLAS B. BLAIR	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *26 October 2009* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *See Continuation Sheet*.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

_____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/Douglas B Blair/
Primary Examiner, Art Unit 2442

Continuation of 4(e) Other: The claim amendment filed on 5/29/2009 was compliant with 1.121 and was entered on 5/29/2009. The current amendment is a supplemental amendment The current claim amendment should be with respect to the 5/29/2009 claim set and not the 3/15/2008 claim set. Only claim 93 should be listed as currently amended. The claim markups should be changed appropriately.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
Filing Date	03/31/2003
Inventorship	Alkhatib *et al.*
Applicant	Inpro Network Facility, LLC
Group Art Unit	2442
Examiner	Blair, Douglas B.
Confirmation No.	2698
Attorney's Docket No.	INNF0017

Title: Secure Virtual Community Network System

RESPONSE TO:

NOTICE OF NON-COMPLIANT AMENDMENT DATED FEBRUARY 5, 2010

NOTICE OF NON-RESPONSIVE AMENDMENT DATED SEPTEMBER 29, 2009

& OFFICE ACTION DATED FEBRUARY 4, 2009

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

From: David A. Morasch Tel. 509-755-7250
Fax 509-755-7252
Customer # 75671

INDEX

List of Claims: page 2

Remarks Section: page 23

LIST OF CLAIMS

Claims 16, 25, 37-40, 44-52, 67, and 101 were previously canceled.

Claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, and 92 were previously amended in the Response filed May 29, 2009.

Please amend claim 93 as shown herein.

Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending:

1. (previously presented) A virtual network system, comprising:

a virtual network manager implemented as a first computing device, the virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network;

a route director implemented as a second computing device, the route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device; and

the virtual network manager further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device.

2. (previously presented) The system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent.

3. (previously presented) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network.

4. (previously presented) The system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director.

5. (previously presented) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager.

6. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and has an associated public network address.

7. (previously presented) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director.

8. (previously presented) The system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address.

9. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses.

12. (previously presented) The system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network.

13. (previously presented) The system of claim 12 wherein the physical network address of the source device is dynamic.

14. (previously presented) The system of claim 12 wherein the physical network address of the source device is static.

15. (previously presented) The system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network.

16. (canceled)

17. (previously presented) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (previously presented) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (previously presented) The system of claim 1 wherein the route director is further configured to:

provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and

store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (previously presented) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network.

22. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address.

23. (previously presented) The system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager.

24. (previously presented) The system of claim 22 wherein the route director is coupled to a private network and includes a private network address.

25. (canceled)

26. (previously presented) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated.

27. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using IPSEC.

28. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using DES or triple DES.

29. (previously presented) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message.

30. (previously presented) The system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (previously presented) The system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in the virtual network from devices of the public network that are also in the virtual network.

32. (previously presented) A virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device;

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address; and

a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

33. (previously presented) The virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network.

34. (previously presented) The virtual network manager of claim 32 wherein the network interface is a UDP port configured for data communication via the virtual network.

35. (previously presented) The virtual network manager of claim 33 wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is a TCP port configured for registration communications via the public network.

36. (previously presented) The virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network.

37-40. (canceled)

41. (previously presented) The virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network.

42. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to provide virtual network addresses to the devices that are registered in the virtual network.

43. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network.

44-52. (canceled)

53. (previously presented) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;

a first virtual network agent associated with a first device that is registered as a member in the virtual network;

at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and

a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

54. (previously presented) The system of claim 53 wherein the route director is a public network route director that includes a public network interface and an associated public network address by which the first and second virtual network agents communicate with the public network route director.

55. (previously presented) The system of claim 53 wherein the route director is a private route director that includes a private physical network interface and an associated private physical network address.

56. (previously presented) The system of claim 53 wherein the first virtual network agent is installed on the first device for data communication via the virtual network.

57. (previously presented) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, and has the associated virtual network address that is not directly routable by which the first device can be identified by the at least second virtual network agent from outside of the private physical network.

58. (previously presented) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, and has the associated virtual network address by which the first device can be identified by the at least second virtual network agent.

59. (previously presented) The system of claim 53 wherein the first virtual network agent is a proxy agent for the first device with respect to the network manager and the route director.

60. (previously presented) The system of claim 53 wherein the first and second devices are configured to access the virtual network from separate private address physical realms.

61. (previously presented) The system of claim 53 wherein the network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (previously presented) The system of claim 53 wherein the network manager includes a member authenticator configured to authenticate the devices that request to register with the network manager.

63. (previously presented) The system of claim 62 wherein the network manager includes a DNS server configured to provide authoritative responses for DNS queries in the virtual network, the DNS server further configured to receive a DNS query from the first device to obtain the virtual network address of the at least second device for use in communicating with the second device.

64. (previously presented) A computer-implemented method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

65. (previously presented) The method of claim 64 further comprising providing the devices in the virtual network with a communication agent.

66. (previously presented) The method of claim 65 wherein said providing the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (previously presented) The method of claim 64 further comprising authenticating the devices as the members in the virtual network.

69. (previously presented) The method of claim 64 further comprising defining a member set of the virtual network that includes one or more of the devices, and assigning the domain name that defines the virtual network.

70. (previously presented) The method of claim 64 further comprising defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device.

71. (previously presented) The method of claim 64 further comprising assigning the virtual network address to the device as an IPV4 compliant address.

72. (previously presented) The method of claim 71 wherein the IPV4 compliant address is non-routable.

73. (previously presented) The method of claim 64 further comprising routing network traffic via the public network from a first device having a public network address to a second device having a different public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device and a destination address which is the virtual network address of the second device, the data packets being encapsulated to include a second source address which is a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a private network address to a second device having a public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the private network address, the data packets being encapsulated to include a second destination address which is the public network address of the second device.

75. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address, the network traffic being routed as encapsulated packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the first and second private network addresses.

76. (previously presented) The method of claim 75 wherein the first private network address and the second private network address are identical.

77. (previously presented) The method of claim 64 further comprising responding to DNS requests received from the devices that are the members in the virtual network.

78. (previously presented) The method of claim 64 further comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate whether or not the second device is joined to the virtual network for data communication.

79. (previously presented) The method of claim 64 further comprising applying a group policy to the devices that are registered as the members of the virtual network.

80. (previously presented) One or more processor readable storage media comprising processor readable code that, if executed by a computer device, implements a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

81. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to provide the devices in the virtual network with a communication agent.

82. (previously presented) One or more processor readable storage media as recited in claim 81 wherein the virtual network manager provides the as a proxy agent.

83. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to define a member set of the virtual network that includes one or more of the devices, and the domain name that defines the virtual network.

84. (previously presented) One or more processor readable storage media as recited in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic via the public network from a first device having a public network address to a second device having a different public network address.

86. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic from a first device in a private physical network having a private network address to a second device having a public network address.

87. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address.

88. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the network traffic is routed to the first or second device via a NAT device.

89. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the first private network address and the second private network address are identical.

90. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets.

91. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encrypted data traffic.

92. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to apply a group policy to the devices that are registered as the members of the virtual network.

93. (currently amended) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a virtual network manager having a network interface coupled to a virtual network, the virtual network manager including at least one virtual community definition that is defined by a domain name having an associated public network address and a user set of one or more devices that are registered in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address that is associated with the device, the virtual network manager configured to exchange virtual network information with the one or more devices of the user set, ~~and~~ the virtual network being accessible by devices in the user set and devices outside of the user set, and the virtual network manager further configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device.

94. (original) The system of claim 93 wherein the virtual network manager includes a member register module.

95. (original) The system of claim 93 wherein the virtual network manager includes a member join module.

96. (previously presented) The system of claim 95 wherein the member join module provides a virtual network address to a device that is registered as a member of the network.

97. (previously presented) The system of claim 93 wherein the virtual network manager is further configured to maintain data on an association between at least one virtual network address with at least one device that is registered as a member of the network.

98. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server for the virtual community network.

99. (previously presented) The system of claim 93 wherein the virtual network manager includes a NAT device detector for devices connecting with the virtual network manager behind a NAT device.

100. (previously presented) The system of claim 93 wherein the virtual network manager includes at least a second virtual community definition.

101. (canceled)

102. (original) The system of claim 93 wherein the virtual network manager includes a member authenticator.

103. (previously presented) The system of claim 93 wherein the virtual network manager includes a DNS server configured to provide authoritative responses for DNS queries from devices in the virtual community.

104. (previously presented) The system of claim 93 further comprising at least one route director configured to communicate with the one or more devices in the user set.

105. (previously presented) The system of claim 93 wherein each device registered in the network is configured to communicate with the virtual network manager and other devices in the user set via at least one agent.

106. (previously presented) The system of claim 93 wherein the user set includes at least a first device and a second device, and wherein at least one of said first device and said second device is coupled to a first private network and accesses a public network via a NAT device.

107. (original) The system of claim 106 wherein said first device is coupled to said first private network, and said second device is coupled to a second private network and accesses the public network via a second NAT device.

108. (previously presented) The system of claim 93 wherein communications between the one or more devices in the user set are encrypted.

109. (previously presented) The system of claim 108 wherein the virtual network manager is configured to provide a shared message to the one or more devices in the user set to establish encrypted communications.

REMARKS

Applicant respectfully requests consideration and allowance of the subject application. Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending, of which claim 93 has been amended.

Notice of Non-Compliant Amendment

The Office states that the claim amendment filed on May 29, 2009 was compliant with 1.121 and was entered. The amendment filed on October 26, 2009 in response to the Notice of Non-Responsive Amendment is a supplemental amendment and the claim amendments should have been presented with respect to the May 29, 2009 claim set. Specifically, only claim 93 should be listed as currently amended, and the claim markups should be changed appropriately.

Accordingly, only claim 93 is listed as currently amended, and Applicant submits that the Response is both fully responsive and compliant.

Notice of Non-Responsive Amendment

The Office indicates that the Response filed May 29, 2009 was not fully responsive because an argument against the §101 rejection of claim 93 was not provided. In the Office Action, claim 93 was rejected as being directed to non-statutory subject matter, namely the recited "virtual network manager". Applicant has amended the Response herein. Specifically, claim 93 has been amended to recite "a computing device that includes at least a memory and a processor configured to implement a virtual network manager…". Accordingly, Applicant submits that the Response is now fully responsive.

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Allowable Subject Matter

Claims 16 and 44 are indicated as being allowable if rewritten in independent form (*Office Action* p. 8). Applicant appreciates the indication of allowability. Claim 1 has been amended to incorporate the allowable subject matter of claim 16 (now canceled), and claim 32 has been amended to incorporate the allowable subject matter of claim 44 (now canceled). The objection to claims 16 and 44 has been obviated.

Accordingly, independent claim 1 along with dependent claims 2-15, 17-24, and 26-31 are in condition for allowance. Similarly, independent claim 32 along with dependent claims 33-36 and 41-43 are in condition for allowance.

35 U.S.C. §101 Rejections

Claims 1-24, 26-36, 41-44, 53-66, 68-79, 93-100, and 102-109 are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter (*Office Action* p. 2). Specifically, the Office rejects claims 1-24 and 26-31 as software *per se* for the recited "virtual network manager" and "route director". Claims 53-63 are also rejected as software *per se* for the recited software agents. Claims 64-66 and 68-79 are rejected because the recited process is not positively tied to a particular machine or does not transform underlying subject matter (*Office Action* p. 3).

Amendments have been provided and Applicant requests that the §101 rejections be withdrawn.

35 U.S.C. §102 Rejection

Claims 1-15, 17-24, 26, 29-43, 53-56, 59-66, 68-87, 90-100, and 102-109 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2008/0232295 to Kreiner *et al*. (hereinafter, "Kreiner") (*Office Action* p. 3).

Applicant respectfully traverses the rejection in light of the amendments to the claims, and makes no representation that cited references are prior art. This response and any remarks or comments included herein are not intended to be, and are not to be interpreted as, an admission that the cited references are prior art. Applicant reserves the right to dispose of any cited references under 35 U.S.C. §102 and/or 35 U.S.C. §103, including but not limited to, antedating any one or more of the cited references.

Independent **Claim 1** along with dependent claims 2-15, 17-24, and 26-31, as well as independent **Claim 32** along with dependent claims 33-36 and 41-43 are in condition for allowance as described above.

Claim 53 recites a virtual network system, comprising:

> a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;
>
> a first virtual network agent associated with a first device that is registered as a member in the virtual network;
>
> at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and
>
> a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

While the Office makes no specific rejection with respect to claim 53, the Office states that all claims above 31 are rejected for the same reasons as 1-15, 17-24, and 25-31 (*Office Action* p. 8). Kreiner does not show or disclose a "network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device", as recited in claim 53.

In rejecting claim 1, the Office cites to Kreiner at ¶[0039] for a virtual network manager configured to register devices in a virtual network (*Office Action* p. 3). Although the cited section of Kreiner describes "an exemplary framework of the data flow through a personal digital gateway, a connected communications device, and/or a connected network, Kreiner does not describe that the devices in the exemplary framework are ever ***registered in a virtual network***, as recited in claim 53.

Kreiner also does not show or disclose "the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device", as recited in claim 53.

With reference to the rejection of claim 1, the Office cites to Kreiner at ¶[0038] for data being communicated as encapsulated packets from a source device to a destination device (*Office Action* p. 4). Kreiner only describes maintaining information about each communications device, such as network routing that provides a virtual private router that tunnels the user's network access to any communications device connected with the personal gateway (*Kreiner* ¶[0038]). However, there is no indication in Kreiner that data is being communicated between devices as encapsulated packets.

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Moreover, the virtual private router in Kreiner that tunnels access to any of the communication devices indicates that the only method of access for the devices is through the single user access. This single user access for multiple devices is contrary to a first virtual network address that corresponds to a first device and a second virtual network address that corresponds to a second device", as recited in claim 53.

Accordingly, claim 53 along with dependent claims 54-63 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 64 recites a computer-implemented method, comprising:

> receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;
>
> distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and
>
> routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 64, such as "devices that request to be registered as members of a virtual network" and "routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet

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including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

Accordingly, claim 64 along with dependent claims 65, 66, and 68-79 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 80 recites a virtual network manager to "receive registration requests from devices that request to be registered as members of a virtual network" and "manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device".

As described above in response to the rejection of claim 53, Kreiner does not show or disclose the features recited in claim 80. Accordingly, claim 80 along with dependent claims 81-92 are allowable over Kreiner for at least the reasons described above, and Applicant requests that the §102 rejection be withdrawn.

Claim 93 recites virtual network manager "configured to receive a DNS request from a source device, and return a public network address of a route director, a private network address for a destination device, and a virtual network address that corresponds to the destination device."

Claim 93 recites allowable subject matter as incorporated into claims 1 and 32 as described above. Accordingly, claim 93 along with dependent claims 94-100 and

102-109 are allowable over Kreiner, and Applicant requests that the §102 rejection be withdrawn.

35 U.S.C. §103 Rejection

Claims 27 and 28 are rejected under 35 U.S.C. §103(a) for obviousness over Kreiner (*Office Action* p. 8). The Office takes official notice that the claimed types of encryption are well known. Claims 27 and 28 depend from allowable claim 1 as described above. Accordingly, claims 27 and 28 are in condition for allowance, and Applicant requests that the §103 rejection be withdrawn.

Conclusion

Applicant submits that pending claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are in condition for allowance, and respectfully requests issuance of the subject application. If any issues remain that preclude issuance of the application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Feb. 22, 2010

By: / Dave Morasch 42905 /
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IPR2025-00201 / 785 Patent 559 of 833 EX1002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2442
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure virtual community network system		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq*., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of $180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 50-4143.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date February 22, 2010 By / Dave Morasch 42905 /
Dave A. Morasch
Reg. No. 42,905

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

	Complete if Known
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2442
Examiner Name	Blair, Douglas

Sheet	1	of	1	Attorney Docket No: INNF0017

US PATENT DOCUMENTS

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Filing Date If Appropriate
		US-20010027474	10/04/2001	Nachman et al.	
		US-20030018912	01/23/2003	Boyle, S. C., et al.	
		US-20030055978	03/20/2003	Collins, Leonard A.	
		US-20030208554	11/06/2003	Holder, Helen A.	
		US-6477565	11/05/2002	Daswani et al.	
		US-7072935	07/04/2006	Kehoe et al.	
		US-7120676	10/10/2006	Nelson et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of cited Document	T^2

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No [1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T^2
		"Non-Final Office Action", Application Number 10/233,288, (12/21/2009), 13 pages	
		"Final Office Action", Application Number 10/403,518, (02/02/2010), 26 pages	

EXAMINER **DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional) [2] Applicant is to place a check mark here if English language Translation is attached

Electronic Patent Application Fee Transmittal

Application Number:	10403818
Filing Date:	31-Mar-2003
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Filer:	William Breen/Kenneth Linder
Attorney Docket Number:	INNF0017

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	7061982
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Kenneth Linder
Filer Authorized By:	William Breen
Attorney Docket Number:	INNF0017
Receipt Date:	22-FEB-2010
Filing Date:	31-MAR-2003
Time Stamp:	18:30:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	8138
Deposit Account	504143
Authorized User	SADLER,LANCE R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017NFOAResponse.pdf	213693 b6c935e854947c5563c9e19f0f43ef916277442d	yes	29

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	22
Applicant Arguments/Remarks Made in an Amendment	23	29

Warnings:

Information:

2		INNF0017IDS.pdf	163812 debe09b779daf61a5a80aae8370cc0378a7e51f5	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Transmittal Letter	1	2
Information Disclosure Statement (IDS) Filed (SB/08)	3	3

Warnings:

Information:

3	NPL Documents	10233288NFOA122109.pdf	315701 c5e6482832c618389d63feac29284924f550df31	no	13

Warnings:

Information:

4	NPL Documents	10403518FOA020210.pdf	922845 c0d743fd3e8da2fcd66c197be3e57fecc9132d4a	no	26

Warnings:

Information:

5	Fee Worksheet (PTO-875)	fee-info.pdf	30020 becc6ed5ff251015b158abe2ba98f31716bc295f	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	1646071

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/403,818	03/31/2003	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☐ RATE ($)	SMALL ENTITY ☐ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/22/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 92	Minus	** 109	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 6	Minus	***8	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/Susan K. Ford/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	INNF0017	2698

75671 7590 03/09/2010

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER	
BLAIR, DOUGLAS B	

ART UNIT	PAPER NUMBER
2442	

NOTIFICATION DATE	DELIVERY MODE
03/09/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@sbmc-law.com

UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

March 4, 2010

SADLER, BREEN, MORASCH & COLBY, PS
422 W. RIVERSIDE AVE, SUITE 424
SPOKANE, WA 99201
US

Dear Sir/Madam,

Your refund request for 10403818 in the amount of $120.00 has been denied .

Application or petition fee not refundable. Money paid by actual mistake or in excess, such as payment not required by law, will be refunded; but a mere change of purpose after payment of money, as when a party desires to withdraw an application, an appeal or a request for oral hearing does not entitle the party to a refund (37 CFR 1.26). If any application is filed without the specification or drawing and the ommission is corrected with in the period set, the application will be returned or otherwise disposed of. The fee, if submitted should include the $130.00 handling fee (37 CFR 1.53).

Sincerely,

Tonya Tubbs
Technical Center 2400
571-272-1633

PTO/SB/08a(04-07)
Approved for use through 7/31/2006. OMB 0651-0031
US Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

	Complete if Known
Application Number	10/403,818
Filing Date	March 31, 2003
First Named Inventor	Alkhatib, Hasan
Art Unit	2442
Examiner Name	Blair, Douglas

Sheet	1	of	1	Attorney Docket No: INNF0017

US PATENT DOCUMENTS					
Examiner Initial *	**Cite No**	**Document Number**	**Publication Date**	**Name of Patentee or Applicant of Cited Document**	**Filing Date If Appropriate**

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	**Cite No**	**Foreign Patent Document**	**Publication Date**	**Name of Patentee or Applicant of cited Document**	**T[2]**

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	**Cite No [1]**	**Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.**	**T[2]**
		"Final Office Action", Application Number 10/403,829, (2/23/2010), 15 pages	
		"Advisory Action", Application Serial No. 10/403,829, (5/14/2010), 2 pages	

EXAMINER **DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Electronic Patent Application Fee Transmittal

Application Number:	10403818
Filing Date:	31-Mar-2003
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Filer:	William Breen/Kenneth Linder
Attorney Docket Number:	INNF0017

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	7632360
Application Number:	10403818
International Application Number:	
Confirmation Number:	2698
Title of Invention:	Secure virtual community network system
First Named Inventor/Applicant Name:	Hasan S. Alkhatib
Customer Number:	75671
Filer:	William Breen/Kenneth Linder
Filer Authorized By:	William Breen
Attorney Docket Number:	INNF0017
Receipt Date:	18-MAY-2010
Filing Date:	31-MAR-2003
Time Stamp:	12:26:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	9820
Deposit Account	504143
Authorized User	SADLER,LANCE R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		INNF0017IDS.pdf	161112 1df0fa8b69fb1bdbf4e7899b44aebbcfca278a80	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Transmittal Letter	1	2
Information Disclosure Statement (IDS) Filed (SB/08)	3	3

Warnings:					
Information:					
2	NPL Documents	10403829AdvisoryAction051410.pdf	110634 bf6ac021615ee366092ba05344e6dae0f8c303e7	no	2
Warnings:					
Information:					
3	NPL Documents	10403829FOA022310.pdf	626235 fd926acf2e9137f65c66d611d5497fe117c72aa6	no	15
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	30019 502234a22311ec65e0a1d25418993814557c6de1	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	928000		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hasan S Alkhatib et al.	Examiner:	Douglas B Blair
Serial No.:	10/403,818	Group Art Unit:	2442
Filed:	March 31, 2003	Docket:	INNF0017
Title:	Secure virtual community network system		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq*., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of $180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 50-4143.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

HASAN S ALKHATIB ET AL.

By their Representatives,

Date May 18, 2010 By / Dave Morasch 42905 /
David A. Morasch
Reg. No. 42,905

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,818	03/31/2003	Hasan S. Alkhatib	INNF0017	2698

75671 7590 06/01/2010

Sadler, Breen, Morasch & Colby, ps
422 W. Riverside Ave, Suite 424
Spokane, WA 99201

EXAMINER
BLAIR, DOUGLAS B

ART UNIT	PAPER NUMBER
2442	

NOTIFICATION DATE	DELIVERY MODE
06/01/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@sbmc-law.com

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No.	Applicant(s)	
	10/403,818	ALKHATIB ET AL.	
	Examiner	Art Unit	
	DOUGLAS B. BLAIR	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *2/22/2010* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *See Continuation Sheet*.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

_____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/Douglas B Blair/ Primary Examiner, Art Unit 2442	

Continuation of 4(e) Other: In claim 93, the markings are not correct. The applicant has indicated that an "and" is to be deleted by strikethrough and that the final limitation of the claim is new by underlining. However both of these changes occurred in the 5/29/2009 amendment that was previously entered. The markings of claim 93 should only indicate what was added on 10/26/2009 that was additional to the 5/29/2009 amendment.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.	10/403,818
Filing Date	03/31/2003
Inventorship	Alkhatib *et al.*
Applicant	Inpro Network Facility, LLC
Group Art Unit	2442
Examiner	Blair, Douglas B.
Confirmation No.	2698
Attorney's Docket No.	INNF0017

Title: Secure Virtual Community Network System

RESPONSE TO:

NOTICE OF NON-COMPLIANT AMENDMENT DATED JUNE 01, 2010

NOTICE OF NON-COMPLIANT AMENDMENT DATED FEBRUARY 05, 2010

NOTICE OF NON-RESPONSIVE AMENDMENT DATED SEPTEMBER 29, 2009

& OFFICE ACTION DATED FEBRUARY 4, 2009

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

From: David A. Morasch Tel. 509-755-7250
Fax 509-755-7252
Customer # 75671

INDEX

List of Claims: page 2

Remarks Section: page 23

LIST OF CLAIMS

Claims 16, 25, 37-40, 44-52, 67, and 101 were previously canceled.

Claims 1, 32, 53, 57, 58, 64, 80, 81, 83, 85-87, and 92 were previously amended in the Response filed May 29, 2009.

Please amend claim 93 as shown herein.

Claims 1-15, 17-24, 26-36, 41-43, 53-66, 68-100, and 102-109 are pending:

1. (previously presented) A virtual network system, comprising:

a virtual network manager implemented as a first computing device, the virtual network manager configured to register devices in a virtual network that is defined by a domain name, each device in the virtual network being identified to the other devices by a virtual network address that is unique for each device and not directly routable via a public network, the virtual network manager further configured to distribute a virtual network address to a device when the device is registered in the virtual network;

a route director implemented as a second computing device, the route director configured to communicate data between the devices that are registered in the virtual network, the data being communicated as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device; and

the virtual network manager further configured to receive a DNS request from the source device, and return a public network address of the route director, a private network address for the destination device, and the second virtual network address that corresponds to the destination device.

2. (previously presented) The system of claim 1 wherein each of the devices communicate with the virtual network manager and the other devices in the virtual network via an associated agent.

3. (previously presented) The system of claim 1 wherein each of the devices include an agent configured to communicate with the virtual network manager and agents of the other devices in the virtual network.

4. (previously presented) The system of claim 2 wherein the associated agent is installed on a proxy device which is a proxy agent for one or more of the devices in the virtual network with respect to the virtual network manager and the route director.

5. (previously presented) The system of claim 2 wherein the virtual network manager is further configured to:

receive a request from the agent associated with a device in a private network to register the device in the virtual network; and

detect a presence of a NAT device via which the request is routed from the agent to the virtual network manager.

6. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and has an associated public network address.

7. (previously presented) The system of claim 1 wherein the route director is further configured to receive the encapsulated packets when routed to a public network address corresponding to the route director.

8. (previously presented) The system of claim 1 wherein each of the devices in the virtual network are further identified by at least one physical network address.

9. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are dynamic.

10. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are static.

11. (previously presented) The system of claim 8 wherein the physical network addresses that are associated with the devices in the virtual network are private network addresses, and wherein the virtual network addresses are unique in the virtual network so as not to conflict with the private network addresses.

12. (previously presented) The system of claim 8 wherein the source device is coupled to a first private network and accesses a public network via a first NAT device configured to transmit the encapsulated packets, an encapsulated packet further including the physical network address of the source device as a private network address in the first private network.

13. (previously presented) The system of claim 12 wherein the physical network address of the source device is dynamic.

14. (previously presented) The system of claim 12 wherein the physical network address of the source device is static.

15. (previously presented) The system of claim 12 wherein the destination device is coupled to a second private network and accesses the public network via a second NAT device, the encapsulated packet further including the physical network address of the destination device as a private network address in the second private network.

16. (canceled)

17. (previously presented) The system of claim 15 wherein the physical network address of the destination device is dynamic.

18. (previously presented) The system of claim 15 wherein the physical network address of the destination device is static.

19. (previously presented) The system of claim 15 wherein said first private network and said second private network share at least one network address.

20. (previously presented) The system of claim 1 wherein the route director is further configured to:

provide a device-specific pseudo address assignment for the device in the virtual network when the device communicates with the route director via a NAT device; and

store an association of the device-specific pseudo address with a public network address of the NAT device and a port number of the NAT device.

21. (previously presented) The system of claim 1 wherein the route director includes a translator for virtual network address information for a device in the virtual network that is implemented in a private network.

22. (previously presented) The system of claim 1 wherein the virtual network manager is coupled to the public network and includes a public network address.

23. (previously presented) The system of claim 22 wherein the route director is coupled to the public network and includes a different public network address than the public network address of the virtual network manager.

24. (previously presented) The system of claim 22 wherein the route director is coupled to a private network and includes a private network address.

25. (canceled)

26. (previously presented) The system of claim 1 wherein the encapsulated packets further include virtual IP packets configured for communication of the data, the virtual IP packets being encrypted prior to being encapsulated.

27. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using IPSEC.

28. (previously presented) The system of claim 26 wherein the virtual IP packets are encrypted using DES or triple DES.

29. (previously presented) The system of claim 5 wherein the virtual network manager is further configured to receive the request from the agent as a message, and detect the presence of the NAT device by comparing a field in a payload of the message with a source address in a header of the message.

30. (previously presented) The system of claim 1 wherein the virtual network manager includes a virtual community definition that is defined by the domain name, and includes one or more of the devices that are registered in the virtual network.

31. (previously presented) The system of claim 1 wherein the route director is a public route director in the public network, the system further comprising a private route director in a private network configured to enable access to devices of the private network that are also in the virtual network from devices of the public network that are also in the virtual network.

32. (previously presented) A virtual network manager, comprising:

a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;

a register module configured to register devices in a virtual network, the register module further configured to:

receive a registration request from an agent associated with a device;

distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address; and

a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

33. (previously presented) The virtual network manager of claim 32 further comprising an additional network interface configured for data communication via a public network.

34. (previously presented) The virtual network manager of claim 32 wherein the network interface is a UDP port configured for data communication via the virtual network.

35. (previously presented) The virtual network manager of claim 33 wherein the network interface is a UDP port configured for data communication via the virtual network, and wherein the additional network interface is a TCP port configured for registration communications via the public network.

36. (previously presented) The virtual network manager of claim 32 wherein the register module is further configured to receive the registration request from the agent that is installed on the device for data communication via the virtual network.

37-40. (canceled)

41. (previously presented) The virtual network manager of claim 32 further comprising a join module configured to receive a join request from the agent associated with the device to indicate that the device is connected for data communication within the virtual network, the join module further configured to receive a leave request from the agent associated with the device to indicate that the device will be disconnected from data communication within the virtual network.

42. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to provide virtual network addresses to the devices that are registered in the virtual network.

43. (previously presented) The virtual network manager of claim 41 wherein the join module is further configured to maintain data to associate a virtual network address with a device in the virtual network.

44-52. (canceled)

53. (previously presented) A virtual network system, comprising:

a computing device that includes at least a memory and a processor configured to implement a network manager of a virtual network that is defined by a public domain name, the network manager configured to distribute virtual network addresses to devices that register as members in the virtual network, each device in the virtual network being identified to the other devices by a virtual network address associated with the device;

a first virtual network agent associated with a first device that is registered as a member in the virtual network;

at least a second virtual network agent associated with at least a second device that is registered as a member in the virtual network; and

a route director configured to route communications between the first device and the at least second device in the virtual network via the respective first and second virtual network agents, the communications configured for routing as encapsulated packets that include a first virtual network address that is not directly routable corresponding to the first device and a second virtual network address that is not directly routable corresponding to the at least second device.

54. (previously presented) The system of claim 53 wherein the route director is a public network route director that includes a public network interface and an associated public network address by which the first and second virtual network agents communicate with the public network route director.

55. (previously presented) The system of claim 53 wherein the route director is a private route director that includes a private physical network interface and an associated private physical network address.

56. (previously presented) The system of claim 53 wherein the first virtual network agent is installed on the first device for data communication via the virtual network.

57. (previously presented) The system of claim 56 wherein the first device is in a private physical network, has an associated private network address, and has the associated virtual network address that is not directly routable by which the first device can be identified by the at least second virtual network agent from outside of the private physical network.

58. (previously presented) The system of claim 56 wherein the first device is coupled to a public physical network, has an associated public network address, and has the associated virtual network address by which the first device can be identified by the at least second virtual network agent.

59. (previously presented) The system of claim 53 wherein the first virtual network agent is a proxy agent for the first device with respect to the network manager and the route director.

60. (previously presented) The system of claim 53 wherein the first and second devices are configured to access the virtual network from separate private address physical realms.

61. (previously presented) The system of claim 53 wherein the network manager includes at least a first community definition and a second community definition, the first community definition being defined by the public domain name and includes one or more of the devices that are registered in the virtual network, and the second community definition being defined by a different public domain name and includes one or more different devices that are registered in the virtual network.

62. (previously presented) The system of claim 53 wherein the network manager includes a member authenticator configured to authenticate the devices that request to register with the network manager.

63. (previously presented) The system of claim 62 wherein the network manager includes a DNS server configured to provide authoritative responses for DNS queries in the virtual network, the DNS server further configured to receive a DNS query from the first device to obtain the virtual network address of the at least second device for use in communicating with the second device.

64. (previously presented) A computer-implemented method, comprising:

receiving registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;

distributing a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

routing communications between the devices that are registered in the virtual network, the communications being routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

65. (previously presented) The method of claim 64 further comprising providing the devices in the virtual network with a communication agent.

66. (previously presented) The method of claim 65 wherein said providing the devices in the virtual network with a communication agent includes providing a proxy agent.

67. (canceled)

68. (previously presented) The method of claim 64 further comprising authenticating the devices as the members in the virtual network.

69. (previously presented) The method of claim 64 further comprising defining a member set of the virtual network that includes one or more of the devices, and assigning the domain name that defines the virtual network.

70. (previously presented) The method of claim 64 further comprising defining at least two member sets of the virtual network that each include one or more of the devices, the at least two member sets having at least one different device.

71. (previously presented) The method of claim 64 further comprising assigning the virtual network address to the device as an IPV4 compliant address.

72. (previously presented) The method of claim 71 wherein the IPV4 compliant address is non-routable.

73. (previously presented) The method of claim 64 further comprising routing network traffic via the public network from a first device having a public network address to a second device having a different public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device and a destination address which is the virtual network address of the second device, the data packets being encapsulated to include a second source address which is a public network address of the first device and a second destination address which is the different public network address of the second device.

74. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a private network address to a second device having a public network address, the network traffic being routed as data packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the private network address, the data packets being encapsulated to include a second destination address which is the public network address of the second device.

75. (previously presented) The method of claim 64 further comprising routing network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address, the network traffic being routed as encapsulated packets having a source address which is the virtual network address of the first device, a destination address which is the virtual network address of the second device, and a shim which includes the first and second private network addresses.

76. (previously presented) The method of claim 75 wherein the first private network address and the second private network address are identical.

77. (previously presented) The method of claim 64 further comprising responding to DNS requests received from the devices that are the members in the virtual network.

78. (previously presented) The method of claim 64 further comprising:

receiving a join status request from a first device in the virtual network as a query to determine the status of a second device in the virtual network; and

responding to the join status request to indicate whether or not the second device is joined to the virtual network for data communication.

79. (previously presented) The method of claim 64 further comprising applying a group policy to the devices that are registered as the members of the virtual network.

80. (previously presented) One or more processor readable storage media comprising processor readable code that, if executed by a computer device, implements a virtual network manager to:

receive registration requests from devices that request to be registered as members of a virtual network that is defined by a domain name having an associated public network address in a public network, each of the devices having an associated private network address;

distribute a virtual network address to a device to register the device as a member in the virtual network, each device in the virtual network being identified to the other devices by the virtual network address that is associated with the device; and

manage communications routed between the devices that are registered in the virtual network, the communications routed as encapsulated packets from a source device to a destination device, an encapsulated packet including a first virtual network address that corresponds to the source device and a second virtual network address that corresponds to the destination device.

81. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to provide the devices in the virtual network with a communication agent.

82. (previously presented) One or more processor readable storage media as recited in claim 81 wherein the virtual network manager provides the as a proxy agent.

83. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to define a member set of the virtual network that includes one or more of the devices, and the domain name that defines the virtual network.

84. (previously presented) One or more processor readable storage media as recited in claim 80 wherein the virtual network address includes a non-routable IPV4 compliant address.

85. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic via the public network from a first device having a public network address to a second device having a different public network address.

86. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic from a first device in a private physical network having a private network address to a second device having a public network address.

87. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to route network traffic from a first device in a private physical network having a first private network address to a second device in a different private physical network having a second private network address.

88. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the network traffic is routed to the first or second device via a NAT device.

89. (previously presented) One or more processor readable storage media as recited in claim 87 wherein the first private network address and the second private network address are identical.

90. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encapsulated data packets.

91. (previously presented) One or more processor readable storage media as recited in claim 85 wherein the network traffic is routed as encrypted data traffic.

92. (previously presented) One or more processor readable storage media as recited in claim 80 further comprising processor readable code that, if executed, implements the virtual network manager to apply a group policy to the devices that are registered as the members of the virtual network.