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J1129 U.S. PTO
09/30/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
REQUEST FOR FILING NATIONAL PATENT APPLICATION
Under 35 USC 111(a) and Rule 53(b)

PATENT APPLICATION

J1033 U.S. PTO
10/259497
09/30/02

Hon. Commissioner of Patents
Washington, D.C. 20231

WITH SIGNED DECLARATION

NONPROVISIONAL
NON REISSUE
NON PCT NAT PHASE

Sir:

Herewith is the PATENT APPLICATION of
Inventor(s): Paul E. STOLORZ et al.

Title Configurable Adaptive Global Traffic Control and Management

Atty. Dkt.: P 0283641 (M#) | ATC (Client Ref)

including: Date: September 30, 2002

1. Specification: 63 pages (only spec. and claims) 2. ☐ Specification in non-English language
3. Declaration ☐ Original ☐ Facsimile/Copy ☒ Abstract 1 page(s); 80 numbered claims
4. ☒ Drawings: 22 sheet(s) ☐ informal; ☒ formal of size: ☒ A4 ☐ 11"
5. ☒ See top first page re prior Provisional, National or International application(s). ("X" box only if info is there and do not complete item 6 or 7). (Prior M# 0283007 SN 60/325,177)
6. This application claims benefit of the following prior US application(s), the contents of which are incorporated into this application by this reference:

No. 60/ 325,177 filed 09/28/2001
No. / filed
No. / filed
No. PCT / filed , which designated the US.

7. ☐ See the attached Preliminary Amendment, which amends the specification to claim benefit of the above listed US application(s)

8. ☒ Attached is an assignment and cover sheet. Please return the recorded assignment to the undersigned.
9. ☒ Assignee (optional): Cable & Wireless Internet Services, Inc.
Address 45 Fremont Street, San Francisco, CA 94150
10. **FOREIGN** priority is claimed under 35 USC 119(a)-(d)/365(b) based on filing in (country)
11.

Application No.	Filing Date	Application No.	Filing Date
(1)		(2)	
(3)		(4)	
(5)		(6)	
(7)		(8)	
(9)		☐ See 3rd page for additional priorties	

12. (No.) Certified copy (copies): ☐ attached; ☐ previously filed (date) in U.S. Application No. / filed on
13. Small entity status ☒ is **not** claimed; ☐ is claimed (**Pre**-filing confirmation required)
13(a). ☐ Attached: (No.) Small Entity Statement(s) (since 9/8/00 small entity statement(s) not essential to make claim)
13(b). ☐ See **NONPUBLICATION REQUEST** under Rule 213(a) attached (Pat-258)

30321104_1

PAT-102CN 6/02

Sandpiper EX2002 (Part 1 of 2)
Google v. Sandpiper
IPR2025-00806

14. **DOMESTIC/INTERNATIONAL** priority is claimed under 35 USC 119(e)/120/365(c) based on the following provisional, nonprovisional and/or PCT international application(s):

Application No.	Filing Date	Application No.	Filing Date
(1) 60/325,177	09/28/2001	(4)	
(2)		(5)	
(3)		(6)	

15. ☐ This application is being filed under Rule 53(b)(2) since an inventor is named in the enclosed Declaration who was not named in the prior application.

16. ☐ Attached:

17. ☐ Preliminary Amendment:

THE FOLLOWING FILING FEE IS BASED ON CLAIMS AS FILED LESS ANY ABOVE CANCELLED

				Large/Small Entity		Fee Code
18. Basic Filing Fee				$740/$370	$740	101/201
19. Total Effective Claims	80	minus 20 =	*60	x $18/$9 =	+ 1080	103/203
20. Independent Claims	11	minus 3 =	*8	x $84/$42 =	+ 672	102/202
*If answer is zero or less, enter "0"						
21. If any proper multiple dependent claim (ignore improper) is present add (Leave this line blank if this is a reissue application)				+ $280/$140	+ 0	104/204
22.				TOTAL FILING FEE =	$2492	
23. If "non-English" box 2 is X'd, add Rule 17(k) processing fee				+ $130	+ 0	139
24. If "assignment" box 8 is X'd, add recording fee				+ $40	+ 80	581
25. ☐ Attached is a Petition under Rule No.				+ $130	+ 0	122
26.				TOTAL FEE =	$2572	

27. Address communications to the correspondence address associated with our Customer No.

00909

PLEASE CHARGE OUR DEP. ACCT.

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Our Order No. 018404 (C#) | 0283641 (M#)

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NOTE: **File in duplicate with 2 post card receipts (PAT-103) & attachments**

APPLICATION UNDER UNITED STATES PATENT LAWS

Atty. Dkt. No. PW 0283641
(M#)

Invention: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Inventor (s): Paul E. STOLORZ, John K. SALMON, Michael S. WARREN; Jeffrey KOLLER; Aric HAGBERG; Maksim Yevmenkin; Mark BRADY; David PFITZNER

For correspondence Address

00909
Pillsbury Winthrop LLP

This is a:

- ☐ Provisional Application
- ☒ Regular Utility Application
- ☐ Continuing Application
  - ☒ The contents of the parent are incorporated by reference
- ☐ PCT National Phase Application
- ☐ Design Application
- ☐ Reissue Application
- ☐ Plant Application
- ☐ Substitute Specification
  Sub. Spec Filed _____
  in App. No. _____ / _____
- ☐ Marked up Specification re
  Sub. Spec. filed _____
  In App. No _____ / _____

SPECIFICATION

CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

[0001] This application is related to and claims priority from provisional United States Patent Application No. 60/325,177, titled "Configurable Adaptive Global Traffic Control and Management," filed September 28, 2001, the contents of which are incorporated herein by reference.

1. Reservation of Copyright

[0002] This patent document contains information subject to copyright protection. The copyright owner has no objection to the facsimile reproduction by anyone of the patent document or the patent, as it appears in the U.S. Patent and Trademark Office files or records but otherwise reserves all copyright rights whatsoever.

2. Field of the Invention

[0003] Aspects of the present invention relate to network traffic management. Other aspects of the present invention relate to configurable, adaptive, global traffic control and management in networks such as the Internet.

BACKGROUND & SUMMARY

[0004] As the volume of Internet traffic grows, providers of web content and applications increasingly need to deliver content from multiple servers at widely-separated locations in order to sustain a good end-user experience under high traffic loads. This need generates several difficult challenges, including, among others:

- how to guarantee the fault-tolerance of such a multiple-server system in the face of failure of one or more individual servers;

- how to control the way in which requests from end-users are distributed to each server according to important content provider policy constraints imposed for economic, contractual or other reasons; and
- how to guarantee high performance as experienced by end-users as network conditions change.

[0005] This invention solves these and other problems by providing a means to distribute network (e.g., Internet) traffic according to a configurable set of rules. The rules can be configured to take into account key factors such as:

- server availability.
- specific requirements of content providers who deploy the invention, e.g., distribution based upon geography, position in IP address space, load share, etc.
- state of the network (Internet) at any given moment, including measures of network latency.

[0006] These rules together provide an extremely fine-grained level of network Internet traffic control to providers of Internet content and applications, enabling them to dramatically improve the end-user experience (measured by speed of request resolution, associated download time, and the availability of servers) over that provided by conventional web servers and mirrored server farms.

[0007] There are many potential uses for the invention. One use is to provide a stand-alone service directing traffic exclusively to a set of designated servers managed by a single organization. The invention may also be used in more general ways – for example, one or more of the designated destinations can refer to servers (or server collections) outside the organization's control. The latter case includes, for example, Content Delivery Networks (CDN's), as well as local load-balancing servers, as potential destinations. The

invention can also be used, e.g., to provide the DNS (Domain Name Service) component of a Content Delivery Network itself. It can be deployed as a service on behalf of subscribers, or it can be deployed as software to be used directly by subscribers themselves.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The present invention is further described in terms of exemplary embodiments, which will be described in detail with reference to the drawings. These embodiments are non-limiting exemplary embodiments, in which like reference numerals represent similar parts throughout the several views of the drawings, and wherein:

[0009] **FIG. 1** depicts a framework according to embodiments of the present invention;

[0010] **FIG. 2** describes exemplary types of policies, according to embodiments of the present invention;

[0011] **FIG. 3** shows an exemplary hierarchy or a decision tree built based on subscriber policies, according to embodiments of the present inventions;

[0012] **FIG. 4** shows an exemplary relationship between a subscriber's network hierarchy and subscriber policies, according to embodiments of the present invention;

[0013] **FIG. 5** depicts a high level architecture of an adaptive traffic control framework according to embodiments of the present invention;

[0014] **FIG. 6** depicts a high level functional block diagram of an administrative master agent (AMA) according to embodiments of the present invention;

[0015] **FIG. 7** depicts the internal functional block diagram of a monitoring mechanism, according to embodiments of the present invention;

[0016] **FIG. 8(a)** is an exemplary flowchart of a process, in which a content delivery framework provides adaptive policy-based domain name service, according to embodiments of the present invention;

[0017] **FIG. 8(b)** is an exemplary flowchart of a process, in which a domain name server resolves a hostname based on policies, according to embodiments of the present invention;

[0018] **FIG. 8(c)** is an exemplary flowchart of a process, in which a monitoring mechanism of a domain name server dynamically monitors the name service operations as well as the availability and the load share status of servers, according to embodiments of the present invention;

[0019] **FIG. 8(d)** is an exemplary flowchart of a process, in which an ATC administrative network maintains dynamic policies and monitors the operations of a content delivery framework, according to embodiments of the present invention;

[0020] **FIG. 8(e)** is an exemplary flowchart of a process, in which an ATC network monitoring mechanism traps events from different domain name servers and generates alerts when necessary, according to embodiments of the present invention;

[0021] **FIG. 9(a)** shows an exemplary secure web based graphical interface, through which a subscriber may define load share and shed fraction policies among static resources, according to embodiments of the present invention;

[0022] **FIG. 9(b)** shows an exemplary interface for defining policies for dynamic servers, according to embodiments of the present invention;

[0023] **FIG. 9(c)** shows an exemplary graphical user interface through which an overflow server may be defined using a canonical name, according to embodiments of the present invention;

[0024] **FIGS. 10(a) – 10(b)** show example subscriber policies, defined based on a set of resource servers, that govern the selection according to geographical location of an incoming request and the time zone of each of the locations, according to embodiments of the present invention;

[0025] **FIGS. 10(c) – 10(d)** show example subscriber policies, defined based on geographical locations of an incoming request with overflow policies that allow the ATC mechanism 150 to direct traffic to pre-defined services when primary servers are not available, according to embodiments of the present invention; and

[0026] **FIGS. 11(a) – 11(c)** show exemplary archived log information that can be displayed and viewed through a graphical user interface, according to embodiments of the present invention.

DETAILED DESCRIPTION

[0027] The invention is described below, with reference to detailed illustrative embodiments. It will be apparent that the invention can be embodied in a wide variety of forms, some of which may be quite different from those of the disclosed embodiments. Consequently, the specific structural and functional details disclosed herein are merely representative and do not limit the scope of the invention.

[0028] Although there are a number of different scenarios in which the invention might be deployed, this description will focus, for clarity and example only, on a scenario in which DNS service is provided by a third party on behalf of a content or applications provider.

[0029] **FIG. 1** depicts a high-level of a framework or system **100** according to embodiments of the present invention. A subscriber **102** provides content via a subscriber

server network **104** which is made up of one or more server groups **106-1**, . . ., **106-*k*** (collectively **106**).

[0030] As used in this description, the framework according to embodiments of this invention contemplates three groups of users:

- An **end-user** who wishes to access content and/or applications over the Internet.
- An **operator** who offers and supports the service on a managed network of computers.
- A **subscriber** (typically a content or applications provider) who subscribes to the operator's service to help to support the needs of the end user.

[0031] The terminology end-user, operator and subscriber is used throughout this description to distinguish these three roles, although there are many scenarios in which more than one role can be taken by a single entity. Such scenarios are contemplated by this invention.

[0032] Each server group **106** may correspond to a server hierarchy which includes one or more tiers of servers. For example, the first tier of a server hierarchy may comprise one or more primary servers and the second tier of the server hierarchy may comprise possibly one or more overflow servers that are used when the primary servers in the first tier fail to function properly. In general, for the *j-th* server group, the primary servers at the first tier of server group **106-*j*** are denoted **108-*j***, and the overflow servers at the second tier of server group **106-*j*** are denoted **110-*j***.

[0033] Each server in a server group is any process or collection of processes that provide resources in response to requests, e.g., from a client. A server can be any off-the-shelf Web server. In some embodiments, servers are typically a Web server such as the Apache server or Netscape Communications Corporation's Enterprise™ server.

[0034] Client **112** accesses the subscriber server network **104** in order to obtain content from the subscriber. Content includes any kind of data, including, without limitation, video and audio data and the like. To achieve this access, a user at client **112** enters a resource locator, e.g., a Universal Resource Locator ("URL"), into a browser **114** on client **112**. URLs specify the location of resources (information, data files, etc.) on the network. URLs are defined in detail in T. Berners-Lee et al, Uniform Resource Locators (URL), Network Working Group, Request for Comments: 1738, Category: Standards Track, December 1994, located at "*http://ds.internic.net/rfc/rfc1738.txt*", which is hereby incorporated herein by reference. URLs generally have the following form:

scheme://host[:port]/url-path

[0035] where "*scheme*" can be a symbol such as "*file*" (for a file on the local system), "*ftp*" (for a file on an anonymous FTP file server), "*http*" (for a file on a file on a Web server), and "*telnet*" (for a connection to a Telnet-based service). Other schemes can also be used and new schemes are added every now and then. The port number is optional, the system substituting a default port number (depending on the scheme) if none is provided. The "*host*" field (the hostname) maps to one or more particular network addresses for particular computer(s). The "*url-path*" is relative to the computer specified in the "*host*" field. A *url-path* is typically, but not necessarily, the pathname of a file in a web server directory.

[0036] The framework or system **100** includes at least one Domain Name Service (DNS) name server **118-1**. In preferred embodiments, the system **100** also includes DNS name servers **118-1, 118-2**, . . ., **118-*n***, (collectively referred to as name servers **118**) all operated by a single particular entity. In the embodiment shown in **FIGURE 1**, one of the name servers **118-1** serves the U.S.A., another name server **118-2** serves the U.K., another name server **118-3** serves Japan, and so on. The various name servers **118-1, 118-2**, . . .,

118-*n* can be configured (collectively or individually) to serve geographical regions, geopolitical regions, corporate structures or any other logical organizational structure. The structure and operation of each name server **118** is described below.

[0037] When the client's browser **114** obtains a request (e.g., in the form of a URL), the browser queries its resolver **116** for an address for the hostname specified in the requested URL. The resolver **116** eventually queries a particular name server (e.g., name server **118-1**). The name server **118-1** returns (provides or attempts to provide) the IP (Internet Protocol) address (or addresses) of a server (or servers) in the subscriber server network. The determination of the particular IP address returned to the resolver **116** may be based on a number of factors, including the resolver's location (e.g., as determined from the resolver's IP address) and various policies (e.g., subscriber policies **120**, other policies **122**) in a policy database **124**. The client's browser **114** is then able to communicate with the selected server in the subscriber server network in order to obtain the desired resource.

[0038] Name servers **118-1, 118-2**, . . ., **118-*n***, according to embodiments of the present invention, include an adaptive traffic control (ATC) mechanism **126** which provides domain name service to a client based on policies in the policy database **124**. Each name server **118** includes or has access to a location determination mechanism **128** for associating the client's request with the client's location. Such a mechanism **128** may be, e.g., the TraceWare™ product of Cable & Wireless PLC. TraceWare™ is suite of services which provide an Internet Atlas which gives real-time, geographic intelligence through its ability to recognize the originating country, region and metropolitan area of Internet consumers.

[0039] The subscriber server network **104** represents a network of servers that provides, on behalf of an underlying subscriber, Internet content or services. For example,

a subscriber may be a content provider, which has its own network of servers that deliver content to end users' browsers via the Internet. The subscriber server network **104** may be configured in such a way that the processing of the service requests may be reasonably distributed among all the servers in the server network **104**, according to some criteria. To achieve that distribution, the subscriber server network **104** may be organized, for example, to have one or more server groups (e.g., server group 1 **106-1**,..., server group *k* **106-k**), each of which may be responsible for processing a portion of the service requests. For example, service requests coming from Finland may be routed to a server group that is physically located in Europe.

[0040] Each server group **106** in the subscriber server network **104** may comprise a plurality of servers to further share the load. For example, a service request from Finland may be subsequently routed to a server located in Scandinavia. Routing service requests to different server groups and subsequently to different servers may be based on various criteria. For example, such routing may be based on the distance between the origin of the request and the location of the server. For example, for a service request originated from Finland, it may be more effective and efficient to direct the request to a server located in Norway instead of directing it to a server located in the U.S. Server load may also be used to determine where to route a service request. For example, a service request originated from the U.S. may be routed to a server group in Mexico if the server group in the U.S. is overloaded while the server group in Mexico is relatively idle.

[0041] Servers in a server group may be organized into a hierarchy with one or more tiers of servers. Servers at different tiers may have different designated purposes. For instance, servers at the first tier of a server hierarchy may include servers that are primary functioning servers, servers at the second tier may include servers that are used as overflow servers which become active only when the primary servers at the first tier

become unavailable or overloaded, and servers at the third tier that are used as second layer overflow servers that become active only when the primary servers and the overflow (or first layer overflow) servers at the second tier become unavailable or overloaded, etc.

[0042] The first tier of a server group hierarchy may include one or more primary servers. When multiple primary servers are present, they may be configured in such a way that they share the load. For example, if there are five primary servers at the first tier, they may be configured so that each takes 20% of the total service requests routed to the server group. For each of such primary servers, it may be further configured so that when a particular server is overloaded or fails, the load share originally designated to this server may be shed or directed to other server(s). The load shed may also be configured when the server is not overloaded. The portion to be shed to other server(s) may be governed by certain pre-defined policies.

[0043] As discussed above, servers in a server group **106** may be classified into different categories based on specific functionality of the underlying servers. For example, a server in a server group **106** may be a primary server, a first layer overflow server, or a second layer overflow server, etc. A server may also be classified in terms of whether and how a server is to be dynamically monitored. For instance, in some embodiments, a server can be classified as either a monitored server or a managed server.

[0044] A classification of a monitored server indicates that the underlying server is to be monitored dynamically for its availability. In this case, the server may be probed for its availability according to some pre-determined schedule. Such a probe may be sent to the underlying server from different locations of the network so that the availability can be detected accurately. That is, if the underlying server failed to respond to one probe sent from one location, it does not necessarily indicate that the server is no longer available (could be due to that only part of the network is congested).

[0045] A probe can be realized in different fashion. It can be simply a signal sent to the server to request an acknowledgement. It can also be a poll operation in which a file stored at a designated location on the underlying server is polled. If the file can be successfully polled, the underlying server is considered to be available. The detected availability may be used to adjust or update policies associated with the server so that the network traffic management will respond to the dynamics related to the server.

[0046] A server that is classified as a managed server may be actively participating the adaptive policy-based management scheme. Similar to a monitored server, a managed server may be regularly probed for its availability. In addition, a managed server may dynamically provide information related to its load share or load shed. A managed server may update its load share or load shed fraction according to its changed capacity or its current load. For example, when a managed server is upgraded, its capacity may be increased so that it may increase its load share or decrease its load shed fraction. On the other hand, when a managed server is overloaded, it may revise its load share to a lower level or increase its load shed fraction to prevent failure. A managed server may revise its load share or load shed by updating the corresponding load share or load shed information in a designated file stored on the server and this file may be polled by a name server so that the dynamically changed load share and load shed information can be used to direct traffic accordingly.

[0047] The distribution of service requests (from a client **112**) within the subscriber server network **104** may be controlled through a set of ATC policies (**120, 122**) stored in the policy database **124**. Various authorities may influence the ATC policies and may create policies in the policy database **124**. For example, the subscriber may set up policies to direct traffic with respect to considerations such as the geographical locations and the capacities of the underlying servers in the subscriber's network **104**. Other policy

entities **138**, including, for example, the operator of the name servers **118** or various geo-political entities may also have policies regarding how the network traffic should be managed and directed. For example, governmental or some organizational agencies may regulate some aspects of network traffic policies. Such regulation policies may be required to be incorporated so that a service request from the client **112** can be routed in a manner that satisfies regulatory policies.

[0048] Thus, the ATC policies in the policy database **124** may be a combination of subscriber policies **120** and other policies **122** from different sources such as subscriber **102** and policy entity **138**. Policies from different sources may be accessed by the ATC mechanism **126** from the policy database **124**. From the point of view of the ATC mechanism **126**, the source of a policy may not be relevant or even determinable. For example, policies may be defined in a textual file stored at a designated location, which may be downloaded to an ATC policy management mechanism **152** in an ATC administrative framework **142** and then broadcast to the database manager **132** located in each of the name servers in the ATC name server network **140**. The download may be via either a graphical user interface (GUI), a file transfer protocol (FTP), or some other mechanism. Policy makers may also enter policies directly via a web-based GUI. For example, the subscriber **102** may enter subscriber policies **120** via a browser interface **156** connected with the ATC administrative framework via, preferably a secure interface (e.g., implemented using the "*https*" protocol).

[0049] The policies from the policy database **124** used by the ATC mechanism **126** are collectively referred to as ATC policies, which may include, not is not limited to, the subscriber policies **120** as well as other policies **122**. The ATC policies may be organized in a manner that is appropriate to govern and/or control the traffic at different levels of the

subscriber server network **104**. **FIG. 2** shows exemplary types of ATC policies **200** according to embodiments of the present invention.

[0050] The ATC policies (**200**) may be classified into different types such as geo-political policies **215**, load share policies **240**, failover policies **245**, tiered failover policies **250**, shedding policies **255**, regulatory policies **260**, and Classless Inter-Domain Routing (CIDR) block policies **210**.

[0051] These exemplary policies in the policy database **124** are described in greater detail below:

- **Geographic Policy (215):** Decisions are based on location of the end-user or an approximate thereof, e.g., using the IP address of an end-user's resolver. For example, if the IP address is within the U.S., the request may be directed to a "domestic" group of servers in the subscriber server network **104**, otherwise it may be directed to "international" servers in the network. The request may be directed to a proprietary Content Delivery Network (CDN) or to another service specified by the subscriber.
- **Load Share Policy (240)**: The subscriber can explicitly specify the amount of traffic (load share) to be directed to each of their servers within a defined server set in the subscriber server network **104**. Typically the load may be specified according to the capacity of each server. Based on such specification, the load share of each server may be derived as a percentage of the total load.
- **Failover policy (245)**: The subscriber may specify policies regarding a failover situation where some of the primary servers fail to function. To take care of such a scenario, a failover policy may instruct the ATC mechanism in terms of, for example, how often to monitor the availability

of the servers and what strategy to adopt when a partial set of the primary servers are detected to be unavailable. For instance, a failover policy may specify to distribute the load of a failing server to other primary servers. It may also alternatively instruct the ATC framework to direct traffic to servers other than the primary servers.

- **Tiered Failover Policy (250)**: The subscriber may specify a strategy through tiered failover policies by which the load should be re-directed to servers at a next tier when one or more subscriber servers in a previous tier fail to function. For example, in defining the subscriber server network, each server group may be configured as a hierarchy, having the first tier of primary servers, the second tier of first layer overflow servers, and the third tier of second layer overflow servers, etc. In this case, a tiered failover policy may be defined to indicate when the load should be re-directed from the primary servers to the overflow servers. For instance, a tiered failover policy may indicate that when all the primary servers fail, the load should be directed to the second tier, and when servers at both the first tier and the second tier fail, the load should be directed to the overflow servers at the third tier. The traffic may also be re-directed to some other servers. For example, when a content delivery network (CDN) is available, the traffic may be re-directed to the entire CDN.
- **Shedding Policy (255)**: In some circumstances, a fraction of the "load" originally designated to a server may be shed or re-directed to one or more different servers. This may occur when the amount of traffic directed to the subscriber server exceeds a prescribed level. In these cases, a subscriber-specified fraction of traffic (shed fraction) that would otherwise be directed

to the server may be shed to one or more other different servers. Such strategy may be adopted to prevent catastrophic failure due to overload. The servers that take the shed load may be an overflow server or some other servers such as a content delivery network. An overload situation may be detected according to the response time of the server. For example, if the response time from a server becomes long, it may indicate that the server is overloaded. In this case, shedding policies **255** may be invoked to re-direct the traffic elsewhere. For instance, if there are a total of 3 primary servers in a server group with load share of (0.3, 0.3, 0.4) and the primary server that is designated to take 40% of the total load is completely overloaded, a shedding policy may specify to shed the load of this server by re-directing 50% of its original load to, for example, the servers located in the CDN **105**. A shedding policy may also specify a condition upon which the traffic will be directed again to the shedding server. Such a condition may relate to a desirable level of performance of the shedding server.

- **CIDR Policy (210)**: Policy decisions are supported based upon CIDR blocks of IP address space. CIDR denotes Classless Inter-Domain Routing, an IP addressing scheme that replaces the system based on classes A, B, and C. With CIDR, a single IP address can be used to designate many unique IP addresses.
- **Regulatory policy (260)**: Certain policies may be specified by some policy entities to control network traffic. Such policies may be enforced in system **100**.

[0052] A policy may be static or dynamic. Selection of a server from the subscriber server network **104** may be based on an adaptive, regularly updated map of the

state of the Internet as well as adaptively updated policies. The map may cluster IP addresses together according to their network latency to a selected set of network agents. This enables the subscriber servers to be selected according to their "network proximity" to an end user's browser, optimizing resulted download time. The policies may be defined in such an adaptive manner that they reflect the dynamic status of the servers such as the availability and load.

[0053] Geo-political policies **215** may govern the selection of a server according to where the client is located. As shown in **FIG. 2**, the geo-political policies **215** may be further classified into continental based distribution policies **220**, country based distribution policies **225**, region based distribution policies **230** and time zone based distribution policies **235**. These policies may be set up to govern the process of selecting a particular server group according to different geographical or political criteria.

[0054] Geo-political policies differ from load based policies (described above). The former is designed to guide selections based on geographical criteria or time criteria. The latter concerns the selection process with respect to the dynamic capacity and load of the underlying servers. The load share policies **240** govern the selection according to the capacities of the servers. Partial failover or tiered failover policies (**245** and **250**) govern the traffic re-direction process when functioning servers in a server group are overloaded or failed.

[0055] The ATC policies **200** may be hierarchically constructed to form a decision tree. **FIG. 3** depicts an exemplary subscriber policy hierarchy or a decision tree built based on various types of subscriber policies, according to an embodiment of the present invention. In **FIG. 3**, the continental based distribution policies **220** are used to first direct a selection process limited to a particular continent. For example, if the requesting client **112** is located in Asia, the continental based distribution policies **220** may direct the

further selection within servers that are located in Asia. Similarly, if the client **112** is located in either North America or Europe, the further selection process may be directed to the appropriate servers located in the corresponding continent.

[0056] Once a DNS request is directed to an appropriate continent, the country based distribution policies **225** may further constrain the selection to particular servers that are in the same or close-by countries where the client **112** is located. For example, if the client **112** is located in the U.S., the country based policies **225** may direct the selection from the servers located in the U.S. Similarly, the region based distribution policies **230** may further constrain the selection to, for example, the west coast or east coast depending on where the client **112** is located.

[0057] When a particular server group is selected (e.g., after a hierarchical decisions based on the continent-based policies **220** and the region-based policies **230**), the load share policies **240** govern the process whereby servers in a given server group should be selected. Such policies may be determined based on the servers' capacities or may be adaptively revised based on the dynamic performance or load of the underlying servers. The load share policies **240** may specify the percentage (share) of the total requests that each server in a server group should handle. For example, if a server group comprises a total of three primary servers (server 1, server 2, server 3), a load share policy for this server group may specify the load share as (0.3, 0.5, 0.2), indicating that server 1 should take 30% of the total load, server 2 should take 50% of the load, and server 3 should take 20% of the total load.

[0058] The tiered failover policies **250** govern the selection of a server when a particular default set of servers is no longer functioning or available. For example, primary servers in a server group may be considered as a default set of servers that provide service when operation is normal. Unavailability of such primary servers may be detected

according to the response time of the server. For example, if a server is simply not responding, the server may be considered as not available. When all the primary servers are down, the tiered failover policies **250** govern where the traffic should be directed. For instance, the tiered failover policies **250** may specify to direct all traffic to the overflow servers at the next tier.

[0059] **FIG. 4** depicts an exemplary relationship between the subscriber server network **104** and the subscriber policies **120**, according to embodiments of the present invention. The subscriber server network **104** is depicted in **FIG. 4** as a network hierarchy or a tree in which the subscriber server network **104** includes server group 1 **106-1** through server group *k* **106-*k***, and each server group may include its own primary server group **108** in the first tier and overflow server group **110** in the second tier (e.g., server group 1 **106-1** has primary server group **108-1** and overflow server group **110-1** associated therewith, while server group *k* **106-*k*** has primary server group **108-*k*** and overflow server group **110-*k*** associated therewith).

[0060] The subscriber policies **120** govern selection of one or more servers within the subscriber server network **104** (or in some other network of servers) so that their IP addresses may be returned in response to DNS requests from the client **112** (resolver **116**). To determine or to select appropriate servers in the subscriber server network **104**, the decisions may be hierarchical. For example, as shown in **FIG. 4**, at the level of the subscriber server network **104**, the ATC mechanism **126** may make geo-political distribution decisions **410** to determine which server group should be selected. Once a particular server group is selected, the ATC mechanism **126** may further determine which particular servers in the group should be selected according to, for example, how the traffic load should be shared among the servers within the server group. Decisions at server group level may be based on the load share policies **240**. This decision making

process illustrates that, at each branch node in the server hierarchy, appropriate ATC policies may be applied to govern the selection of an appropriate server or servers.

[0061] As illustrated in **FIG. 4**, the geo-political policies **215** may be applied to control the selection of a particular server group, the load share policies **240**, the tiered failover policies **245** and **250**, and the shedding policies **255** may be applied to re-direct traffic. That is, the subscriber server network **104** forms a tree and the ATC policies **200** govern the flow from the top of the tree to one or more leaves of the tree. The ATC mechanism **126** controls the flow by applying the ATC policies **200**.

[0062] **FIG. 5** depicts a high level architecture of an adaptive traffic control (ATC) framework according to embodiments of the present invention. The ATC framework comprises an ATC administrative framework **142** and an ATC name server network **140**. The ATC administrative framework **142** is responsible for various administrative tasks associated with subscribers or other policy making entities **(138)**, include manipulating and storing the ATC policies **200**, propagating or broadcasting the ATC policies **200** to name servers in the ATC name server network **140**, monitoring name server behavior, generating status reports to display monitoring results on appropriate media, and sending alert to a network operation center (NOC) **148** (see **FIG.** 1) and the subscriber **102**.

[0063] The ATC name server network **140** is responsible for responding to DNS requests, including processing DNS requests, applying the ATC policies **200** to select one or more servers from the subscriber server network (or a different designated network), and replying with the IP address(es) of the selected server(s). The ATC name server network **140** dynamically maintains the ATC policies **200**, that are either received from the ATC administrative framework **142** or updated according to the dynamic operational status of the servers. The ATC name server network **140** provides domain name-IP address resolutions based on dynamically updated ATC policies **200**. The ATC name

server network **140** may also monitor the operational status of individual name servers within the network and supply logging and monitoring data to the ATC administrative framework **142**.

[0064] The ATC administrative framework **142** may be designed to have fault-tolerance. For example, as depicted in **FIGS. 1** and **5**, the ATC administrative framework **142** may include an administrative master agent (AMA) **144**, and one or more AMA backups **146-1, . . ., 146-*m*** (collectively **146**). All AMA agents, including the master agent **144** and the backups **146** may be capable of performing the exact functions except that one of them (e.g., master AMA **144**) may be a central or primary administrative master agent and others (e.g., AMA backups **146**) may be backup or secondary or redundant master agents. The central or primary AMA **144** may be responsible for regularly backing up the AMA backup agents **146**. When, for whatever reason, the primary AMA **144** is no longer functioning properly, one of the AMA backups **146** may take on the role of the central or master AMA **144**.

[0065] The ATC name server network **140** may comprise a plurality of name server agents **118-1, 118-2, . . ., 118-*k***, each of which may be designed to be responsible for the DNS requests of a particular geographical (or any other administrative or functional) region. For example, the name server agent **118-1** may be responsible for processing all the DNS requests from North America, the name server **118-2** may be responsible for Europe's DNS requests, and the name server **118-3** may be responsible for DNS requests from Japan. In addition, a name server agent may also serve as a back up name server agent for other name server agents in the network. For example, if the North America name server agent is not functioning properly, the Europe name server agent may be temporarily assigned to handle the DNS requests from North America. For that

purpose, all ATC policies may be propagated to all of the name server agents in the ATC name server network **140**.

[0066] **FIG. 6** depicts a high level functional block diagram of an administrative master agent (AMA) **144** according to embodiments of the present invention. The AMA **144** comprises a secure web-based graphical user interface **160**, a policy editing mechanism **162**, an ATC policy database **124**, an administrative policy update mechanism **164**, an ATC administrative browser **166**, an ATC policy management mechanism **152**, a report generation mechanism **168**, an ATC network monitoring mechanism **150**, and an administrative master backup mechanism **170**.

[0067] The ATC policy database **124** stores the ATC policies **200**. As discussed above, the ATC policies **200** may include policies from different sources (e.g., from subscribers and from other entities that control network traffic). Both the subscriber policies **120** and other policies **122** may be defined and provided to the AMA **144**. In the exemplary configuration shown in **FIG. 6**, the policies may be received at the AMA **144** through the secure web based GUI **160**. There may be other means through which the policies can be delivered to the AMA **144** and will be discussed later. The policy editing mechanism **162** organizes the received policies to form the ATC policies **200** and then stores them in the ATC policy database **124**.

[0068] The ATC policy management mechanism **152** may broadcast or propagate the ATC policies **200** to relevant name servers in the ATC name server network **140** so that the ATC policies **200** may be used to control the domain name translation service. The stored ATC policies may be dynamically updated via different means. For example, the policies may be updated through the ATC administrative browser **166**, or the administrative policy update mechanism **164** may revise existing ATC policies.

[0069] Alternatively, the AMA 144 may also be provided with policies from different sources through the ATC policy management mechanism **152,** which may regularly poll dynamically updated policies from different locations. Such locations may include designated network locations that are designated to provide dynamic policy related information or servers (either in the subscriber server network **104** or in the CDN **105**) that are classified as managed servers. For instance, a server may dynamically specify its load share via a designated file stored on the server. To retrieve such dynamically defined load share information from a managed server, the ATC policy management mechanism **152** may poll the designated file stored on the managed server to obtain relevant load share information. Dynamic policies may also be polled from other policy making entities.

[0070] Broadcasting ATC policies may take place periodically according to some pre-defined interval or may be triggered whenever the stored ATC policies are updated. The ATC policy management mechanism **152** may monitor changes made to the existing ATC policies. The ATC policy management mechanism **152** may poll the ATC policies stored in the ATC policy database and see whether there are changes. On the other hand, whenever the ATC policy management mechanism **152** polls dynamic policies from specified locations (such locations may be specified in existing ATC policies), it may determine whether the dynamically polled policies differ from existing ATC policies. In the event that updated policies are different from the existing ATC policies, the ATC policy management mechanism **152** may re-broadcast the updated ATC policies to the ATC name server network **140**.

[0071] The ATC network monitoring mechanism **150** may collect DNS log summaries from different name servers in the ATC name server network **140**. Such summary log data may be received in the form of events that provide information such as, for example, the number of requests directed to particular servers in a given time period.

The ATC network monitoring mechanism **150** may collectively processes such DNS log summaries (or events) from the entire ATC system. The report generation mechanism **168** may generates monitoring status reports from these summaries and makes such reports available to the subscriber **102** via the secure web-based GUI **160**.

[0072] The administrative master backup mechanism **170** may periodically update the AMA backups **146-1, . . ., 146-*m*** to ensure that all the backup agents are current. This may include replicating the ATC policies, the operational status of various control mechanisms (including the ATC policy management mechanism **152**), the policy editing mechanism **162**, and the administrative policy update mechanism **164**, and providing the up-to-date information to the AMA backups.

[0073] A major function of an administrative master agent is to manage the ATC policies, to make sure that updated ATC policies are supplied to the name server agents in the ATC name server network **140**, to monitor the various name servers' performance, to generate dynamic monitoring status report of system performance, and to maintain a connection through which policies may be updated dynamically and monitoring report can be examined.

[0074] Information flagging system errors and other anomalous conditions is collected by the ATC network monitoring mechanism or agent **150**. **FIG. 7** depicts an internal functional block diagram of an ATC network monitoring mechanism **150**, according to embodiments of the present invention. The ATC network monitoring mechanism **150** includes a trap handler **176**, a processing mechanism **182**, and an alert generation mechanism **184**. The trap handler **176** traps events from the name servers in the name server network **140**. The processing mechanism **182** analyzes both the collected trapped events, and, based on analyzed information, the alert generation mechanism **184**

generates alerts when necessary, and reports such alerts to, for example, the ATC's network operation center (NOC) **148** and the subscriber **102** (**FIG. 1**).

[0075] The trap handler **176** further comprises an event receiver **178** that intercepts trap events from the name servers and an event consolidation mechanism **180** which may classify the trapped events and organize them in a reasonable and appropriate fashion. The processing mechanism **182** may process the consolidated events to identify useful or informative patterns which may be further used, by the alert generation mechanism **184** to identify problematic patterns which may significantly affect the system performance.

[0076] The Adaptive Traffic Control (ATC) framework according to the present invention may be deployed as a stand-alone service directing traffic solely to the subscriber's servers, in conjunction with another content delivery network (CDN) provider, or in conjunction with any other service.

[0077] Each domain name server in the ATC name server network **140** may include (**FIG. 1**) a location determiner **128**, an adaptive traffic control (ATC) mechanism **126**, a monitoring agent or mechanism **130**, a database manager **132**, and a report generator **134**. When a name server (e.g., **118-1**) receives a request from the resolver **116** of the client **112**, the location determiner **128** determines the location of the resolver and sends such location information to the ATC mechanism **126**. Based on the location information, the ATC mechanism **126** retrieves relevant ATC policies from the policy database **124** (e.g., the subscriber policies **120** or the other policies **122**) and selects one or more servers in the subscriber server network **104** according to the retrieved relevant policies. The corresponding IP address(es) or the CNAME of the selected servers are then returned to the resolver **116**.

[0078] The database manager **132** maintains the policy database **124**. It received policies broadcast from the ATC policy management mechanism **152** in the ATC

administrative framework **142** and populates the policies in the policy database **124**. The ATC policies received from the ATC administrative framework **142** may also include information that defines or classifies servers in the subscriber server network **104** (or in the CDN **105**). For example, some servers may be defined as monitored servers and some may correspond to managed servers.

[0079] When the database manager receive such information, it may inform the monitoring mechanism **130** of the classification of the underlying servers so that the monitoring mechanism **130** can monitor each server according to its status. When the ATC policy management mechanism **152** broadcasts updated policies, the database manager **132** accordingly updates the relevant policies stored in the policy database **124**.

[0080] The monitoring mechanism **130** monitors the operational status of the name server **118-1** and one or more servers in the subscriber server network. It may collect events occurred in the name server **118-1** during operations and send such events to the ATC network monitoring mechanism **150** in the ATC administrative framework **142**. On the other hand, it may also monitor the operations of various servers in the subscriber server group **104** (or in the CDN **105**) according to how each server is defined (monitored or managed server).

[0081] If a server is defined as a monitored server, the monitoring mechanism **130** may dynamically probe the server (as discussed earlier) to determine its availability. If a server is defined as a managed server, the monitoring mechanism **130** may monitor its availability during operation. The monitoring mechanism **130** may also poll dynamic load share information from the server. When the monitoring mechanism **130** detects that a server is no longer available, it may inform the database manager **132** to create a local policy that indicate that the server is no longer available so that the ATC mechanism **126** can take into account when resolving a hostname.

[0082] When the monitoring mechanism **130** polls the dynamic load share information from the server, it may inform the database manager **132** to update the load share policies in the policy database **124** that are affected by the dynamics of the polled load share. For example, if three primary servers in a server group originally have load share (0.3, 0.3, 0.4) and the third primary server now changes its load share to 0.2, the database manager **132** may accordingly update the load share among these three primary servers into (0.4, 0.4, 0.2).

[0083] The report generator **134** generates reports related to the operations of the underlying name server based on log information **136** recorded. Such generated reports may be sent to a report consolidator **154** in the ATC administrative framework **142** so that reports from different name servers may be consolidated.

[0084] A subscriber may activate (turn up) the ATC system (DNS servers) in one of two ways: using a DNS CNAME or using NS delegation. Instead of using ATC to direct traffic for a single DNS hostname, the subscriber may have many different subdomains that it would like to direct to ATC. For example, the subscriber might want all downloads from *dl.customer.com* handled by ATC, together with all of its subdomains, but have all other domains that it controls, such as *www.customer.com,* resolved by its own name server:

dl.customer.com. => ATC
any.thing.dl.customer.com. => ATC
www.customer.com. => not ATC
customer.com. => not ATC

[0085] In this case, instead of adding the CNAME record in the subscriber's DNS zone file, it simply delegates the *dl.customer.com*. name to ATC via NS records in its zone file.

[0086] The delegation (using NS-records) method is presently preferred as it is more flexible and offers all of the reliability, scalability and flexibility of ATC. After the initial contact for delegation, a properly operating resolver making occasional queries will not contact the subscriber's own name server or name servers again. The result provides much better name resolution performance since the unnecessary overhead of routing each fresh DNS request through the subscriber's name server is eliminated. The CNAME method keeps the subscriber's own name server in the loop. That is, whenever the CNAME TTL expires, client resolvers will return to the subscriber's name servers to refresh the record.

[0087] For both CNAME and NS delegation methods, the procedure to turn off the ATC switch is the same – the subscriber edits its DNS zone files to remove the delegation authority to ATC. DNS requests will continue to be served in accordance with the subscriber's defined ATC policies until the TTL's have expired on the appropriate delegations.

The System in Operation

[0088] **FIG. 8(a)** is an exemplary flowchart of a process, in which a name server resolves a DNS request based on ATC policies, according to an embodiment of the present invention. First, a user enters a URL into the user's browser **114** (or into any application that accepts URLs as input and obtains the corresponding resource for the client) (at **802**). The client's resolver **116** attempts to resolve the hostname of the URL in order to obtain an IP address of a server from which the resource identified by the URL can be obtained (at **804**). The resolver **116** will be directed by the client's DNS (not shown) to a DNS Name Server **118** in the ATC name server network **134** (at **806**). The resolver **116** provides the name server **118** with the hostname it is attempting to resolve.

[0089] The name server **118** receives the request to resolve the hostname (at **808**) and determines one or more servers in the subscriber server network **104** or in the CDN **105** that can process the client's request according to the location of the resolver **116** as well as relevant ATC policies retrieved from the policy database **124** (at **810**). Details of this operation are described with reference to **FIG. 8(b)**. The IP address(es) of the selected server(s) are returned to the requesting resolver **116** (at **812**). The browser **114** then connects to one of the servers (at **814**) in order to obtain the requested resource.

[0090] **FIG. 8(b)** is a flowchart of an exemplary process, in which a domain name server selects one or more servers according to location of the client and relevant ATC policies. The location of the resolver **116** (or client) is first determined (at **816**). Relevant ATC policies are then retrieved (at **818**) from the policy database **124**. One or more servers in either the subscriber server network **104** or the CDN **105** are selected according to the determined location of the client and the relevant ATC policies (at **820**).

[0091] **FIG. 8(c)** is a flowchart of an exemplary process, in which the monitoring mechanism **130** in a domain name server monitors the operations of the name server as well as one or more servers in the subscriber server network **104** or the CDN **105**. Events occurring during domain name service are monitored (at **822**). Such events are sent to the ATC network monitoring mechanism **152** (at **824**). In addition, the availability of the one or more servers are also monitored (at **826**). Furthermore, if any of the one or more servers is defined as a managed server (determined at **828**), dynamic load share information is polled (at **830**). Both the availability information and the dynamic load share information (if any) are used to update some ATC policies that are local to the name server (at **832**).

[0092] **FIG. 8(d)** is a flowchart of an exemplary process, in which the ATC policy management mechanism **152** dynamically maintains and broadcasts the ATC policies.

Initially, policies from different sources are received (at **834**) and broadcast to the name servers **118** (at **836**). If backup is necessary (determined at **838**), the ATC policy management mechanism **152** sends current policies to the master backup agents **146** (at **840**).

[0093] The ATC policy management mechanism **152** also performs dynamic policy maintenance. It polls dynamic policy information (at **842**) at certain defined intervals and uses such polled dynamic policy information to update existing policy (at **844**). The updated policies are then broadcast to the name servers (at **846**). If the updated policies need to be propagated to the backup agents (determined at **848**), they are sent to the master backup agents (at **850**).

[0094] **FIG. 8(e)** is a flowchart of an exemplary process, in which the ATC network monitoring mechanism **150** monitors operations of the name servers and sends alert to the NOC **148** and the subscriber **102**. Events sent from monitoring mechanisms of different name servers are trapped (at **852**). Such trapped events from different sources are then consolidated (at **854**) and processed (at **856**). If there is any alarming situation (determined at **858**), the ATC network monitoring mechanism **150** generates an alert (at **860**). The generated alert is then sent to both the NOC **148** and the subscriber **102** (at **862**).

Policy Administration

[0095] The ATC policies may be initially set up and later adaptively updated according to servers' dynamic operational status. The ATC policies may be formed via various means. The described approaches may also be applied to form other policies. A GUI approach or a file-based approach (or both) may be employed to set up subscriber policies. Through the GUI approach, different means to form subscriber policies may be adopted. For example, a browser may be used so that a subscriber can enter policies

directly. An XML file containing descriptions of the subscriber policies may also be loaded using GUI approach so that the policies may be parsed and stored. As another alternative, a file containing descriptions of the subscriber policies may also be loaded in a similar fashion and parsed accordingly. When a file based method is used, a file containing descriptions of the subscriber policies, either constructed based on XML or some other structure, may be accessed via other means such as FTP.

[0096] In some preferred embodiments, a subscriber accesses a secure web-based GUI **160** (**FIG. 6**) using subscriber's secure browser interface **156**.

[0097] **FIGS. 9(a)-9(c)** show exemplary secure web based graphical interfaces, through which a subscriber may define load share policies and overflow policies with respect to specified network resources, according to embodiments of the present invention. There may be different types of load sharing servers: (1) static servers, (2) dynamic servers, and (3) overflow servers. A dynamic server is one that is specified as either a monitored or a managed server whose dynamic availability may be monitored and whose load may be re-directed when it becomes unavailable. In the case of a monitored server, both of its load share and load shed fraction may also be made dynamic.

[0098] Correspondingly, the policies governing routing requests to different types of servers may also be defined accordingly. First, the policies that govern static servers are applied when servers are relatively static and do not change often over time. This may mean that the availability of the servers is fairly stable and load sharing among different servers is also relatively stable. The policies that control dynamic servers are applied when servers are expected to change frequently. Such policies include failover policies, shedding policies, and tiered failover policies (described earlier). The overflow policies control the change of flow of the requests when, for some reason, primary servers, either

static or dynamic, become unavailable or overloaded. In this case, relevant overflow policies determine to which overflow server a request for name service should be directed.

[0099] The load share with respect to a given server represents the amount of traffic that will be sent to that server within a static server setting. An exemplary method to compute the load share of the traffic sent to the server is to sum the load share amount of all servers in a current static server setting and divide the load share for that server by the summed total to derive the load share.

[00100] The shed fraction for a given server represents the percentage of traffic that should be redirected away from the server. The redirection may be carried out after load share is made based upon load share policies. **FIG. 9(a)** gives an example interface, in which each of the servers listed is assigned various selection related parameters. For example, for each server, a TTL is specified. In addition, a load share and a shed fraction may also be specified. For example, both server New York and London have load share of 1.0. The shed fraction assigned to server New York is 0.2, meaning that 20% of its load is re-directed to some other server, and the shed fraction assigned to server London is 0.3, meaning that 30% of its load is re-directed to some other server.

[00101] Shedding fractions may also be computed automatically on the fly. For example, when a server is detected to have slow response, indicating that it may be overloaded, a shedding fraction may be computed according to the discrepancy between its expected response time and the actual response time. Such an automatically computed shedding fraction can then be applied to re-direct the newly computed fraction of the traffic to a different server to unload some of the traffic originally intended to be directed to the overloaded server.

[00102] For each resource server, an on-line flag may also be set to indicate whether the server is currently available. This flag is shown in **FIG. 9(a)** in the rightmost column. With this flag, a server may be temporarily removed from the service, if, for instance, a server needs to be taken down for maintenance.

[00103] Due to the fact that dynamic servers are expected to change relatively frequently, policies that govern their selection may be defined in two stages. The policies for dynamic servers may be initially specified in a similar fashion as for static servers. For instance, load share and shed fraction can be defined for dynamic servers New York and London, as shown in **FIG. 9(a)**. During operation, however, the policies that govern the selection of dynamic servers may be established dynamically. For example, initially defined policies (e.g., load share, shed fraction, and on-line flag) may be adaptively revised based on, for instance, an on-line status report retrieved from one or more specified locations on the network. Dynamic policies provide considerable flexibility in how the selection may be conducted in a manner that is adaptive to the network health or any other network performance related factors (e.g., maintenance).

[00104] The on-line status report may be provided at one or more network locations specified by the subscriber. The locations may be specified as a Uniform Resource Locator (URL) and may be accessed through an HTTP request. A location of the status report may be specified in the initial policy, providing a constant link to the location. **FIG. 9(b)** shows an exemplary GUI for specifying an URL link to a status report. An URL link for the location of the status report is specified as "*http : // server*" which corresponds to a server named London with an IP address of 10.0.0.3. The access may be authenticated and such authentication requirements may also be specified in the initial policies. The on-line accessed status report may be constructed based on information gathered during monitoring the servers' performance. For instance, each server in the

subscriber server network may provide a status report containing information related to its performance. Name servers in the ATC name server network may poll such information from such servers and such information may be used to update policies.

[00105] The frequency with which the status report is accessed may also be specified explicitly. For example, it may require the relevant mechanisms (specifically, the ATC policy management mechanism or the monitoring mechanism of each name server) to poll the status report at a regular time, e.g., every thirty seconds.

[00106] A status report may be constructed using some standard language such as extendible Markup Language (XML). Such a status report may contain revised policies, which may be determined by the subscriber manually based on network performance, devised by an automated process based on network performance, or may be generated by an individual managed server. In such cases, the status report includes updated policies and when it is polled, the updated policies are used in future traffic control. For example, a managed server may re-define its load share of according to its dynamic capacity. When such dynamically defined load share information is accessed and used in enforcement, the traffic is controlled in a manner that is adaptive to the network dynamics.

[00107] When a status report is accessed, the relevant mechanisms (e.g., the ATC policy management mechanism in the ATC administrative framework or the ATC mechanism in corresponding name server) updates the associated policies based on the information contained in the status report. For example, a status report may indicate that the current load share for server New York should be 0.4 (down from 1.0 previously) with the same shed fraction (0.2) and the current load share for server London should be 0.5 (down from previous 1.0) with 0.4 shed fraction (40% shed fraction). An alternative scenario may be that the status report provides network performance data about each

dynamic server and the ATC mechanism, after accessing the status report, determines how the current policies may be revised accordingly.

[00108] When the status report provides dynamic policies, it may, in general include, for each dynamic server, the following information: `<ServerStatus loadShare="LS" shedFraction="SF" online="Boolean"/>`, where LS and SF represent numerical numbers and "Boolean" represents a logical value of either "true" or "false".

[00109] With the mechanism of dynamic policies described above, a subscriber or a server can easily specify changes to existing policies (e.g., changes to load share, shed fraction policies and the On-line flag) without having to update an entire ATC policy hierarchy. In addition, a parameter (called "Down on line" in some embodiments) can be set in an ATC policy to control the behavior of the ATC mechanism under the circumstance that the ATC policy management mechanism is unable to properly access the status report due to reasons such as a failed polling or retrieval or failing to parse the status report's content. According to some embodiments of the present invention, three different exemplary approaches may be applied to handle the situation.

[00110] With the first approach, a subscriber may instruct an ATC mechanism in a name server not to select a particular server if the status report for that server can not be properly obtained. The subscriber may specify this policy by setting parameter "Down on line" to false. In this case, the ATC mechanism will not consider the underlying server as a candidate for selection process until the polling mechanism retrieves a valid status report.

[00111] The second approach to deal with a polling failure is to allow the ATC mechanism to select the underlying dynamic server according to its default policies

(or original policies). To specify this solution, the subscriber may set the "Down on line" parameter true.

[00112] The third approach to handle the situation where the status report can not be properly retrieved is to allow the ATC mechanism to select the underlying server if its "on line" flag is on (it is available). To achieve this, a subscriber may specify only the "on line" ServerStatus in the status report, with parameter "Down on line" set to either true or false. In this case, the ATC mechanism will use a load share and a shed fraction specified in the policy when the "On line" flag is set to true. The load share and the load shed fraction may both be dynamically determined (either broadcasted from the ATC policy management mechanism or polled by the ATC mechanism **130** from the underlying server.

[00113] Both static and dynamic servers are primary servers, although their selection may be controlled by operationally different policies. The third type of servers are called overflow servers. They provide alternatives when primary servers, for some reason, can not be selected. Typically, an overflow server corresponds to a Canonical name or *CName*, pointing to a service providing a CDN (such as, e.g., Cable & Wireless PLC's Footprint service). The choice of overflow servers may be determined based on the belief that they are in general always available. An overflow server may be defined through a window illustrated in **FIG. 9(c).** In **Fig. 9(c)**, overflow servers are defined by a CName, which points to the CDN server address "*customer.footprint.net*" (e.g., the CDN **105**, shown in **FIG. 1**).

[00114] **FIGS. 10(a) – 10(b)** show example subscriber policies, defined based on a set of resource servers, that govern the selection of the servers according to different criteria such as geographical location of an incoming request and the time zone of each of the locations. In **FIG. 10(a)**, three different resource servers are defined,

including an "eastserver" with IP address 10.0.0.2, a "westserver" with IP address 10.0.0.1, and a service network with CName "*customer.footprint.net*". Here, the service network may include more than one servers.

[00115] **FIG. 10(b)** shows an exemplary decision tree embedded in a set of geographical policies that guide how the traffic should be directed to a set of servers. In the decision tree depicted in **FIG. 10(b)**, the selection is first directed to different resources at the top level according to a split between the United States and rest of the world. A resource may correspond to either a single server (or CDN) or a group of servers (or CDNs). A request initiated from non-U.S. geographical regions is directed to a resource named "London". Within the United States, time zone based policies are further applied. A request initiated from a region within the central time zone is directed to a resource named "New Work". A request initiated from a region within Alaska time zone is directed to the resource "London". Finally, a request initiated from a region within the United States that does not fall in any of these time zones (i.e., Alaska or Central) can be directed to either "London" or "New York".

[00116] **FIGS. 10(c) – 10(d)** show another example decision tree constructed based on a set of resources (servers or CDNs) and subscriber policies that are defined based on geographical locations of an incoming request with overflow policies that allow the ATC mechanism to direct traffic to pre-defined overflow servers when primary servers are not available. In the Resource window shown in **FIG. 10(c)**, three resources are defined: static resources "London" and "New York", each defined based on its IP address, a service network named "Sydney" with CName "*customer.sandpiper.net*". Each resource may correspond to a set of servers such as a server group with certain hierarchy. Resource "London" is further defined as a dynamic resource and resource "Sydney" is further

defined as an overflow server network nicknamed "cdn_service". **FIG. 10(d)** illustrates an example decision tree built based on these resources.

[00117] The decision tree in **FIG. 10(d)** first splits two ways at the top level based on whether a request is from the United States. When a request is initiated from the United States, it is directed, according to the policies illustrated in **FIG. 10(d)**, to the dynamic servers at the first tier of resource "London". A request from the United States may also directed to one of the overflow servers in resource "cdn_service". This may happen when either all the primary servers at the first tier of resource "London" fail to function or when such primary servers are overloaded.

[00118] In addition to the various web-based interfaces described herein, there are also other means through which subscriber policies may be defined. As discussed earlier, for example, subscriber policies may also be constructed or specified in an XML file which can be downloaded by an ATC mechanism and used to control the traffic.

[00119] Policies defined via different means (e.g., through web based GUI or XML file) may be converted into some pre-defined format within the ATC mechanism. Such pre-defined format may be designed for efficiency in manage and handling the ATC policies. For example, the internal format for ATC policies may be designed so that, internally, the AMAs can conveniently store, access, and broadcast the ATC policies to the name server agents and the name server agents can efficiently apply the policies.

[00120] As mentioned earlier, in addition to management of the ATC policies, the AMA may also monitor the performance of name servers and generates viewable DNS log reports. The monitoring mechanism may gather performance information from either the DNS logs of the name servers or the events trapped from the name servers. Such gathered information may be used by the report generation

mechanism to construct informative reports. The report generation mechanism may also make such reports available to the subscribers via the secure web-based GUI. **FIGS. 11 (a) – 11(c)** show exemplary types of report information that is accessible via the secure web-based GUI. **FIG. 11(a)** depicts a web interface that allows a subscriber to view DNS log data of a specified resource server. A subscriber can specify the name of the server under review (e.g., "*download.subscriber.com*"), the form in which the log data is to be organized (e.g., specify output style of "Separate", meaning to display IP and CName queries and replies with answers as separate items in the output), the time period under review (e.g., from September 1, 2002 to September 24, 2002), and the time resolution used in displaying the log data (e.g., automatically select time resolution).

[00121] **FIG. 11 (b)** shows a plot of log data related to a specified server. The log data is presented in a plot, generated based on the log entries of a particular server against a specified period of time (X-axis) with certain resolution. The exemplary plot reflects the volume of the traffic directed to the underlying server during a period time between 2:30pm and 3:30pm on September 24, 2002. The traffic volume is described in terms of number of replies generated by the underlying server per minute (Y-axis). It can be seen in this example plot that there is a surge in traffic volume between 2:36pm and 2:38pm. **FIG. 11(c)** shows a graphical display for the same log data in **FIG. 11(b)** in a table form, in which the log data is listed in an chronicle order from top to the bottom of the table. For instance, each row in the left column lists a period of time. In the exemplary table, the log data within the one hour period (2:30pm to 3:30pm) is divided into a plurality of sub-periods, each of which is 15 minutes. For each sub-period, the third column provides the number of replies from the corresponding sub-period. For instance, during the sub-period of 3:15pm to 3:30pm, there are 13 replies and there is no reply in other sub-periods (consistent with the plot illustrated in **FIG. 11(b)**).

[00122] The various mechanisms described herein, including, without limitation, the adaptive traffic control (ATC) mechanism, the location determination mechanism, policy editing mechanism, administrative policy update mechanism, ATC policy management mechanism, report generation mechanism, a monitoring mechanism, and an administrative master backup mechanism may be implemented in hardware, software or a combination thereof. When implemented in software, they may be implemented in any type of appropriate interpreted or compiled programming language. When implemented fully or partially in software, aspects of the invention can reside on any memory or storage medium, including but not limited to a ROM, a disk, an ASIC, a PROM and the like. While the invention has been described with reference to particular mechanisms (algorithms, processes and functions) and architectures, one skilled in the art would realize that other mechanisms and/or architectures could be used while still achieving the invention.

[00123] When the various mechanisms of the present invention are running on a particular machine (e.g., the at a client or on a server), they may reside in the memory of the machine or on a storage device or in a combination. Further, while many of the operations have been shown as being performed in a particular order, one skilled in the art would realize that other orders, including some parallelization of operations, are possible and are considered to be within the scope of the invention.

[00124] The present invention has been described above in connection with a preferred embodiment thereof; however, this has been done for purposes of illustration only, and the invention is not so limited. Indeed, variations of the invention will be readily apparent to those skilled in the art. Such variations also fall within the scope of the invention. Thus, while the invention has been described with reference to the certain illustrated embodiments, the words that have been used herein are words of description,

rather than words of limitation. Changes may be made, within the purview of the appended claims, without departing from the scope and spirit of the invention in its aspects. Although the invention has been described herein with reference to particular structures, acts, and materials, the invention is not to be limited to the particulars disclosed, but rather extends to all equivalent structures, acts, and, materials, such as are within the scope of the appended claims.

[00125] The processing described may be performed by a properly programmed general-purpose computer alone or in connection with a special purpose computer. Such processing may be performed by a single platform or by a distributed processing platform. In addition, such processing and functionality can be implemented in the form of special purpose hardware or in the form of software being run by a general-purpose computer. Any data handled in such processing or created as a result of such processing can be stored in any memory as is conventional in the art. By way of example, such data may be stored in a temporary memory, such as in the RAM of a given computer system or subsystem. In addition, or in the alternative, such data may be stored in longer-term storage devices, for example, magnetic disks, rewritable optical disks, and so on. For purposes of the disclosure herein, a computer-readable media may comprise any form of data storage mechanism, including such existing memory technologies as well as hardware or circuit representations of such structures and of such data.

What is claimed is:

1. A framework for delivery of Internet content comprising:

a subscriber server network; and

at least one domain name server constructed and adapted to provide policy-based domain name service,

wherein, in response to a request to resolve a hostname, the domain name server attempts to resolve the hostname to at least one address corresponding a server in the subscriber server network based on at least one policy consideration.

2. A framework as in claim 1 further comprising:

a content delivery network, distinct from the subscriber server network,

wherein, in response to a request to resolve a hostname, the domain name server provides at least one addresses of a server in the content delivery network based at least on a location of the requestor and other policy considerations.

3. A framework as in claim 1 wherein an address provided by the domain name server is selected based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) overflow policies; and

(d) network aware policies.

4. The framework according to claim 1, wherein the at least one policy consideration includes at least one of:

a geo-political policy governing the selection of a server in the subscriber server network according to a geographical location of a requesting client;

a load share policy governing the selection of a primary server from a server according to dynamic load information associated with the servers in the subscriber server network;

a shedding policy governing a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network;

a partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function;

a failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as one of a monitored server and a managed server.

5. A domain name server for providing domain name service comprising:

a location determiner for determining a location of a requestor;

an adaptive traffic control mechanism constructed and adapted to provide policy-based domain name service,

wherein, in response to a request to resolve a hostname, the domain name server attempts to provide at least one addresses of a server in a subscriber server network based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) overflow policies; and

(d) network aware policies.

6. A method of providing domain name service comprising:

receiving from a resolver a request to resolve a hostname;

determining a location of the requesting resolver;

determining an address based on the determined location and on other dynamic policy considerations; and

providing the address to the requesting resolver.

7. A method as in claim 6 wherein the address is determined based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) load shed policies; and

(d) network aware policies.

8. A framework for delivery of Internet content comprising:

a server network associated with a subscriber that provides Internet content; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide policy-based domain name service,

wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC name server network resolves the hostname to at least one address corresponding a server in the subscriber server network based at least one policy consideration.

9. A framework as in claim 8 wherein the policy considerations comprise one or more of:

(a) geographic policy considerations;

(b) load share policy considerations;

(c) overflow policy considerations; and

(d) network aware policy considerations.

10. A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein,

in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requestor.

11. A framework as in claim 10 wherein the answer comprises:

an Internet protocol (IP) address or a CNAME corresponding to a server in the server network.

12. The framework according to claim 10, wherein the server network includes at least one of:

a subscriber server network; and

a content delivery network.

13. The framework according to claim 12, wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy.

14. The framework according to claim 13, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and

a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function.

15. The framework according to claim 14, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

16. The framework according to claim 15, wherein each domain name server in the ATC domain name server network comprises:

a location determiner constructed and adapted to determine a geographic location of a requesting client;

an adaptive traffic control (ATC) mechanism capable of facilitating the policy-based domain name service.

17. The framework according to claim 16, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to a geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

18. The framework according to claim 17, wherein the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

19. The framework according to claim 18, further comprising a regulatory policy.

20. The framework according to claim 16, wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server.

21. The framework according to claim 20, wherein the monitoring agent is further constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers.

22. The framework according to claim 21, wherein the monitoring agent is further capable of polling dynamic load share and load shed information from one or more managed servers so that the domain name server can determine a server according to the dynamic load share and load shed information associated with the managed servers.

23. The framework according to claim 20, further comprising an adaptive traffic control (ATC) administrative framework capable of administering the operations of the ATC name server network and the status of the server network.

24. The framework according to claim 23, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

25. The framework according to claim 24, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of the ATC domain name server network through event information received from at least one monitoring agent of the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server in the ATC domain name server network; and

an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

26. The framework according to claim 25, wherein the at least one source includes at least one of:

the subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities defining policies that can be received or dynamically polled by the ATC policy management mechanism; and

one or more managed servers in the server network that provide dynamic load share and load shed policies that can be polled.

27. The framework according to claim 25, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents associated with different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the consolidated trapped event information; and

an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center.

28. The framework according to claim 27, wherein the alert generation mechanism is further capable of sending the alert to the subscriber.

29. A domain name server for resolving a hostname, comprising:

a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received;

an adaptive traffic control (ATC) mechanism capable of supporting policy-based domain name service, wherein,

in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network based at least on the location as ascertained by the location determiner and at least one policy.

30. The domain name server according to claim 29, wherein the server network includes at least one of:

a subscriber server network comprising at least one server group; and

a content delivery network comprising at least one server.

31. The domain name server according to claim 30, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow server fail to function.

32. The domain name server according to claim 29, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

33. The domain name server according to claim 32, wherein

a monitored server corresponds to a server where the availability of the monitored server is dynamically monitored; and

a managed server corresponds to a server where either the availability of the managed server is dynamically monitored or the load share and load shed is dynamically defined.

34. The domain name server according to claim 32, wherein the geo-political policies include at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

35. The domain name server according to claim 32, further comprising a regulatory policy.

36. The domain name server according to claim 29, further comprising a monitoring agent capable of observing events occurred during the operation of the domain

name server and sending such events to an adaptive traffic control (ATC) network monitoring mechanism of an adaptive traffic control (ATC) administrative framework.

37. The domain name server according to claim 36, wherein the monitoring agent is further capable of monitoring the availability of one or more servers in the server network that are designated as either a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

38. The domain name server according to claim 37, wherein the monitoring agent is further capable of polling dynamic load share and load shed information from one or more managed servers so that the domain name server can determine the server according to the dynamic load share and load shed information.

39. An adaptive traffic control (ATC) administrative framework, comprising:
an administrative master agent (AMA);
at least one administrative master agent (AMA) backup; and
a network operation center, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of an adaptive traffic control (ATC) domain name server network comprising at least one domain name server through event information received from at least one monitoring agent located in the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server; and

an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

40. The framework according to claim 39, wherein the at least one source includes at least one of:

a subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities capable of defining policies that can be dynamically polled by the ATC policy management mechanism; and

one or more servers in a server network that are designated as managed servers.

41. The framework according to claim 40, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents located in different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the trapped event information; and

an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center and the subscriber.

42. A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) domain name server network, a request from a resolver to resolve a hostname;

determining an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network.

43. The method according to claim 42, wherein the server network includes at least one of:

a subscriber server network providing content delivery service; and

a content delivery network providing the content delivery service.

44. The method according to claim 43, wherein the subscriber server network includes at least one server group.

45. The method according to claim 44, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

46. The method according to claim 45, wherein each server in the server network can be designated as at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

47. The method according to claim 46, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

48. The method according to claim 47, wherein the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

49. The method according to claim 48, further comprising a regulatory policy.

50. The method according to claim 49, wherein said determining the IP address comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client;

identifying the server according to the retrieved one or more policies; and

identifying the at least one of the IP address and the CNAME of the server.

51. The method according to claim 50, further comprising establishing the at least one policy.

52. The method according to claim 51, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

53. The method according to claim 52, wherein the at least one source includes at least one of:

the subscriber; and

a regulatory entity.

54. The method according to claim 53, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network.

55. The method according to claim 54, further comprising:

dynamically updating a policy based on a dynamic policy polled by said polling to generate an updated policy; and

broadcasting the updated policy to the at least one domain name server in the ATC name server network.

56. The method according to claim 55, further comprising monitoring, by a monitoring mechanism in a domain name server, the operational status of the domain name server.

57. The method according to claim 56, wherein said monitoring comprises:

monitoring events that occur during the operations of the domain name server; and

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

58. The method according to claim 57, further comprising monitoring, by the monitoring mechanism, the availability of one or more servers that are designated as either

a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

59. The method according to claim 58, further comprising polling, by the monitoring mechanism, dynamic load share or load shed information from one or more managed servers in the server network so that the domain name server can determine the server according to the dynamic load share and load shed information.

60. The method according to claim 59, further comprising administering, by the ATC administrative framework, the operational status of the ATC name server network.

61. The method according to claim 60, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and

processing the consolidated events.

62. The method according to claim 61, further comprising:

generating an alert based on results from said processing; and

sending the alert to an network operation center of the ATC administrative network and the subscriber.

63. A method for resolving a hostname, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname from a client via a resolver;

determining a server in a server network based at least on the geographic location of the client and at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one location based policy.

64. The method according to claim 63, wherein the server network includes at least one of:

a subscriber server network; and

a content delivery network.

65. The method according to claim 64, wherein the subscriber server network includes at least one server group.

66. The method according to claim 65, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

67. The method according to claim 66, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

68. The method according to claim 67, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function;

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server; and

a regulatory policy.

69. The method according to claim 68, wherein said determining the server comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client; and

determining the server according to the retrieved one or more policies.

70. The method according to claim 69, further comprising dynamically establishing the at least one policy.

71. The method according to claim 70, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

72. The method according to claim 71, further comprising monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server.

73. The method according to claim 72, wherein said monitoring comprises:

monitoring events that occur during the operations of the domain name server;

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

74. The method according to claim 73, further comprising monitoring the availability of one or more servers that are designated as wither a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

75. A method of an adaptive traffic control (ATC) administrative framework, comprising:

maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname;

monitoring the operational status of the ATC name server network.

76. The method according to claim 75, wherein said maintaining the at least one policy comprises:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source; and

broadcasting the received at least one policy to the at least one domain name server in the ATC name server network.

77. The method according to claim 76, wherein the at least one source includes at least one of:

a subscriber; and

a regulatory entity.

78. The method according to claim 77, further comprising:

polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network;

updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy; and

broadcasting the updated policy to one or more domain name servers in the ATC name server network.

79. The method according to claim 78, wherein said monitoring comprises:

receiving, by an ATC network monitoring mechanism in the ATC administrative framework, events sent from at least one monitoring mechanism of the at least one domain name server;

consolidating the events to form consolidated events; and

processing the consolidated events.

80. The method according to claim 79, further comprising:

generating an alert based on results from said processing; and

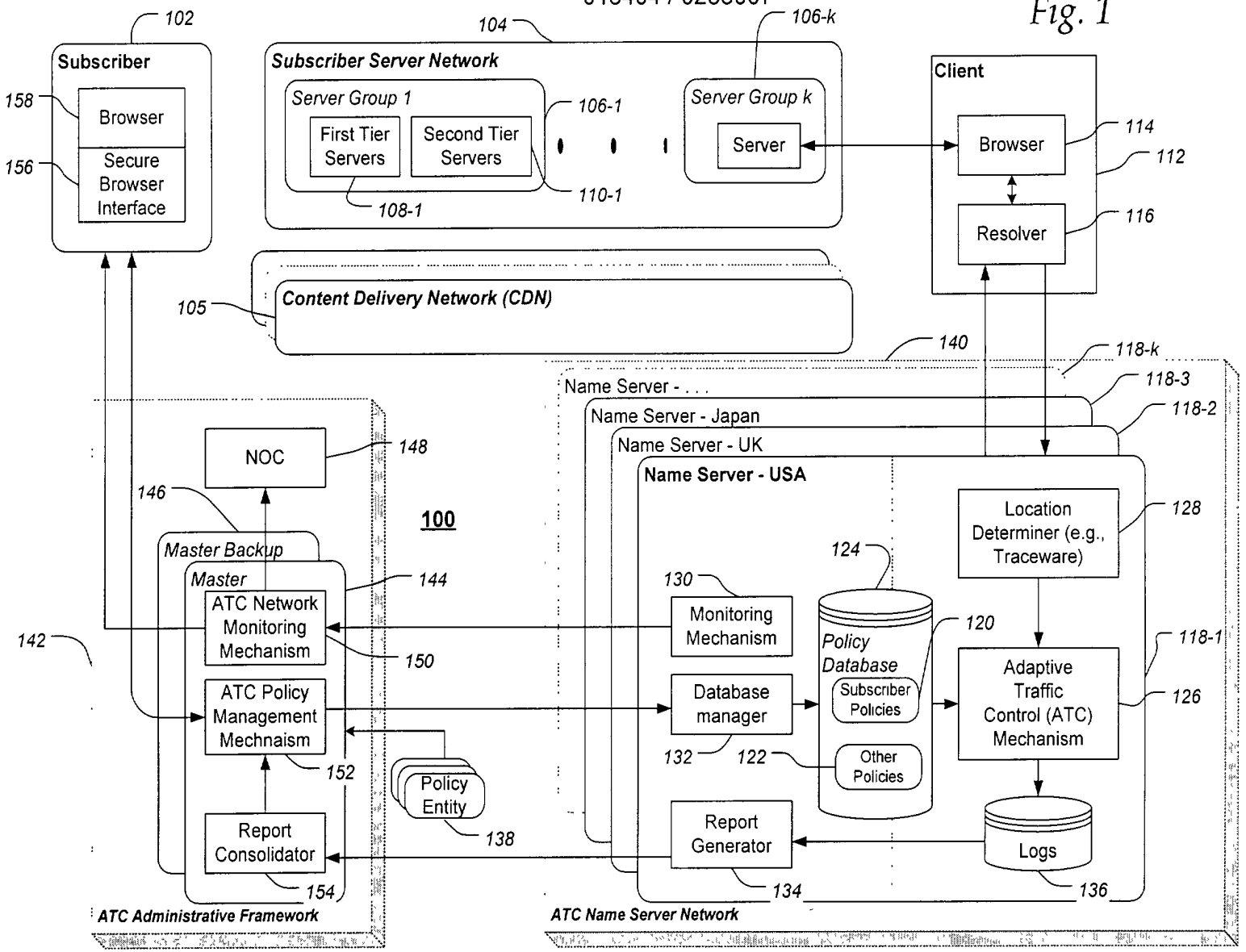
sending the alert to an network operation center of the ATC administrative framework and the subscriber.

ABSTRACT OF THE DISCLOSURE

CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

A framework for delivery of Internet content includes a subscriber server network; and at least one domain name server constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server resolves the hostname to at least one address corresponding a server in the subscriber server network based on at least one policy consideration. The framework may include a content delivery network, distinct from the subscriber server network, wherein, in response to a request to resolve a hostname, the domain name server provides at least one addresses of a server in the content delivery network based at least on the location of the requestor and other policy considerations. An address returned by the domain name server is selected based on one or more of: (a) geographic policies; (b) load share policies; (c) overflow policies; and (d) network aware policies.

Fig. 1



8900

Docket No. 018404-0283007

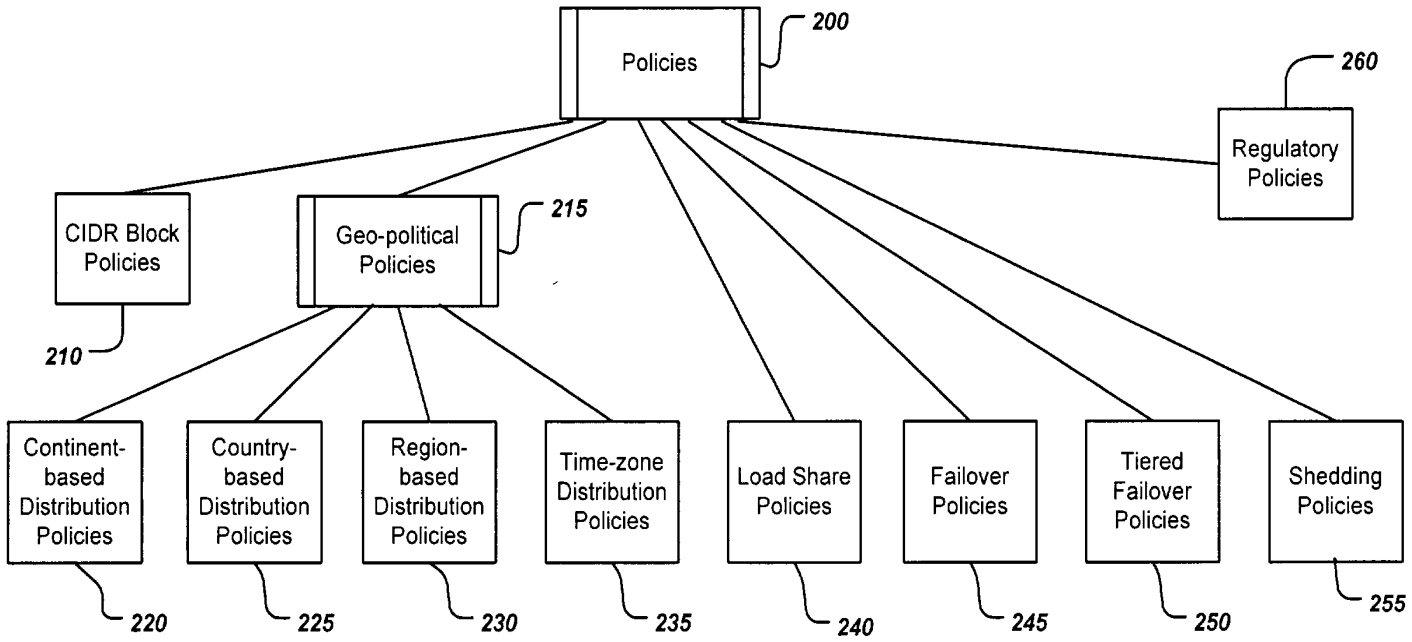

Policies
200
260
Regulatory Policies
CIDR Block Policies
210
Geo-political Policies
215
Continent-based Distribution Policies
220
Country-based Distribution Policies
225
Region-based Distribution Policies
230
Time-zone Distribution Policies
235
Load Share Policies
240
Failover Policies
245
Tiered Failover Policies
250
Shedding Policies
255

Fig. 2

6900

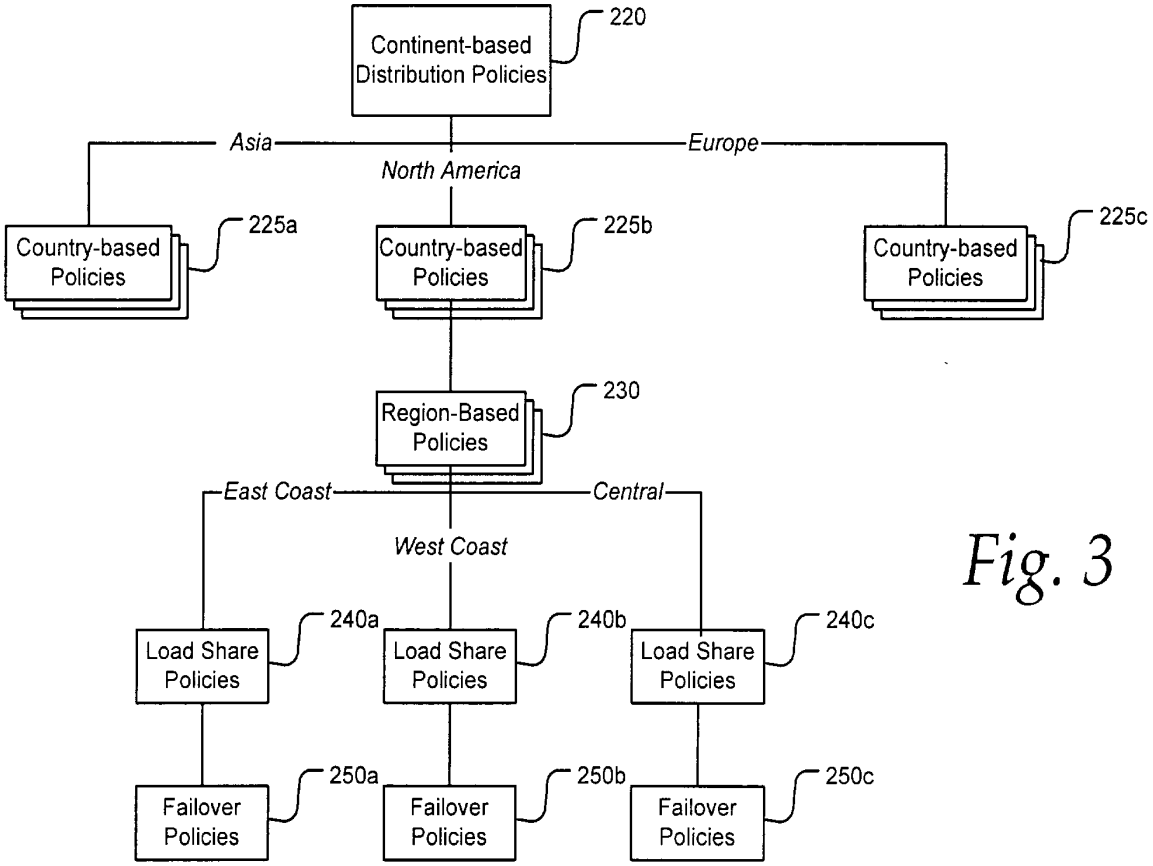


Fig. 3

0070

EDS9849.1-0283007

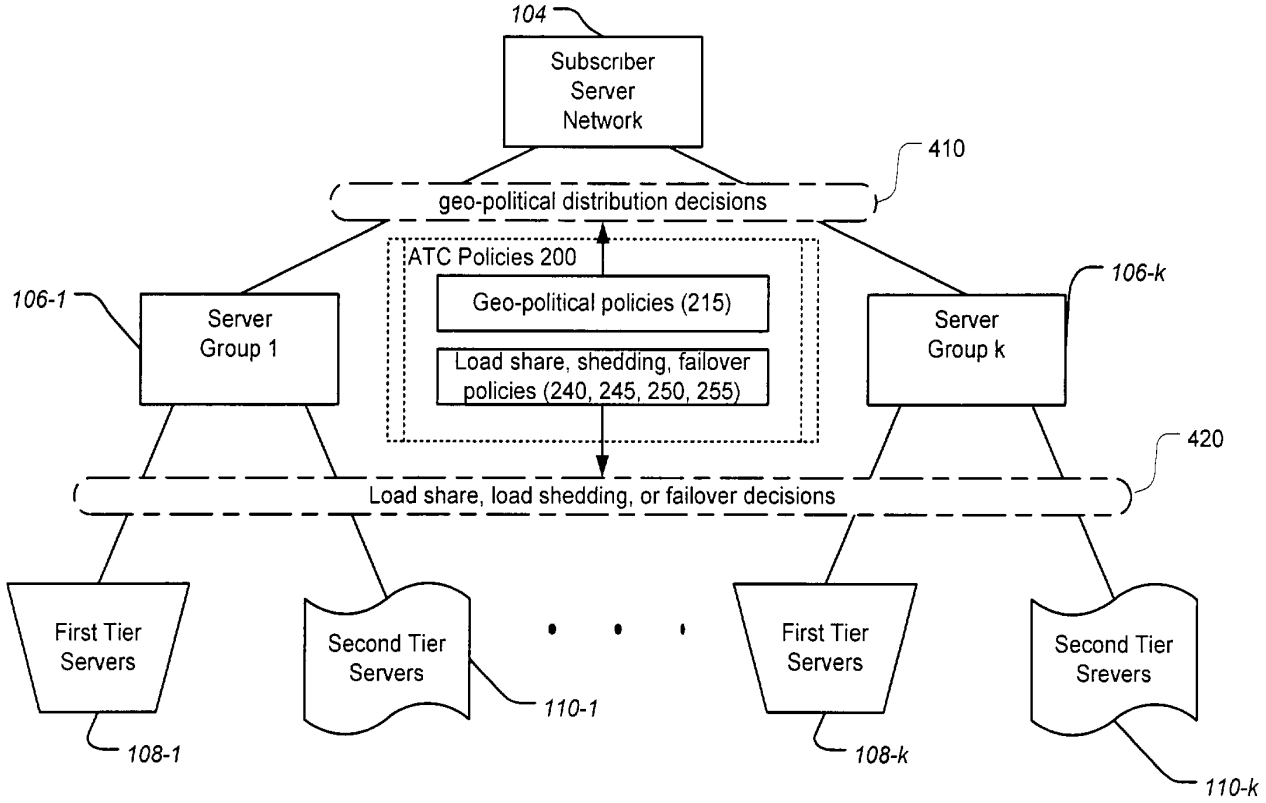


Fig. 4

0071

Docket No. 0283007

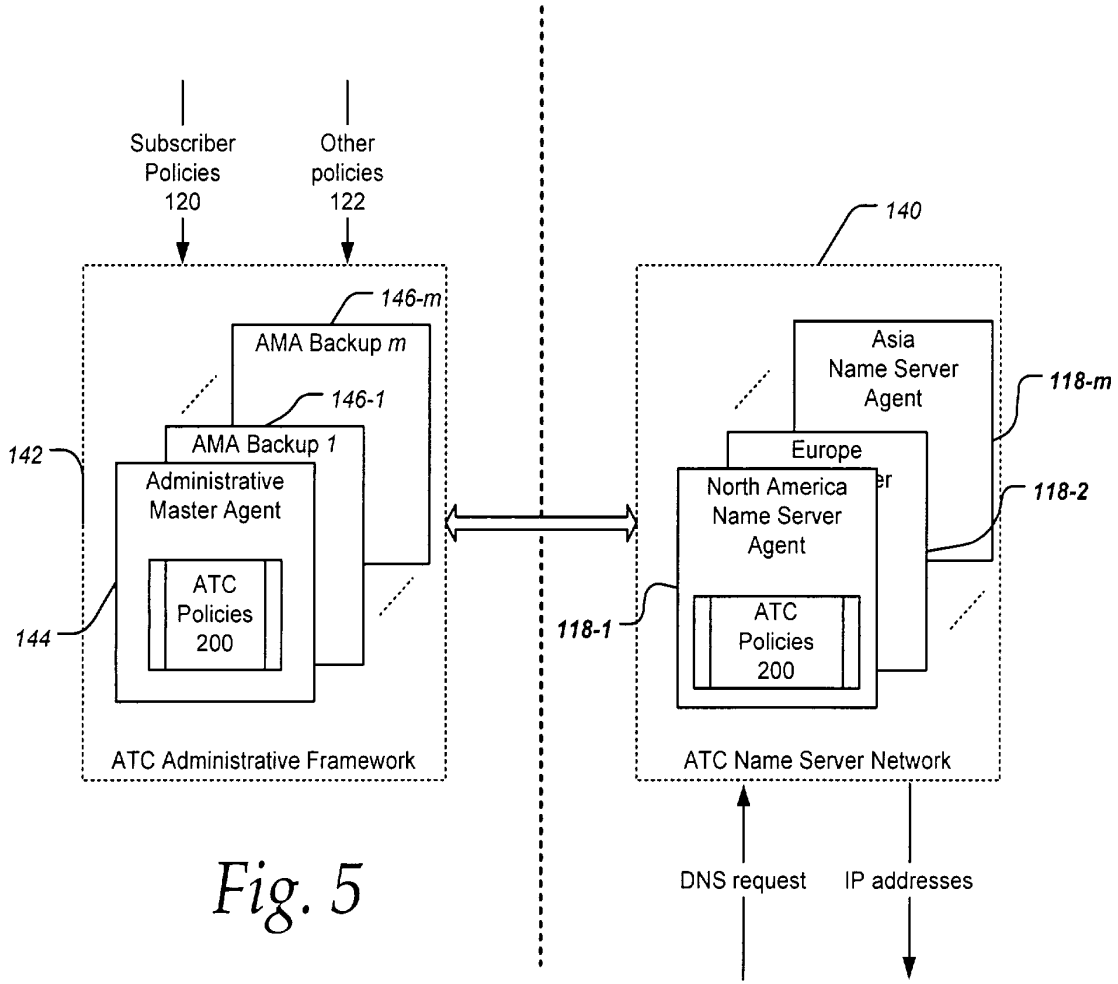

Subscriber Policies 120
Other policies 122
140
146-m
AMA Backup m
146-1
AMA Backup 1
142
Administrative Master Agent
ATC Policies 200
144
ATC Administrative Framework
Asia Name Server Agent
118-m
Europe
North America Name Server Agent
118-2
118-1
ATC Policies 200
ATC Name Server Network
DNS request
IP addresses

Fig. 5

0072

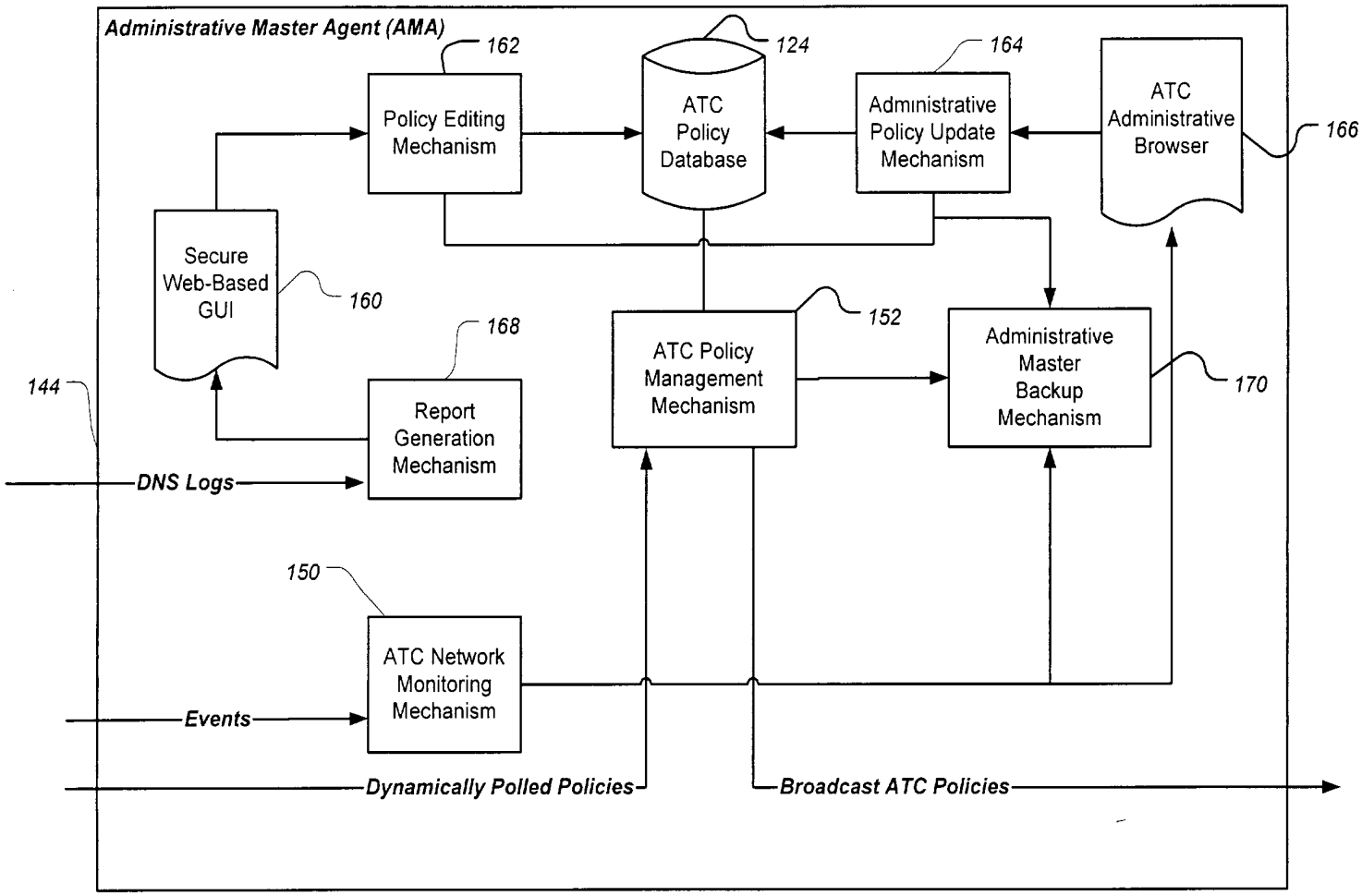


Fig. 6

0073

Docket No. 018404-0283007

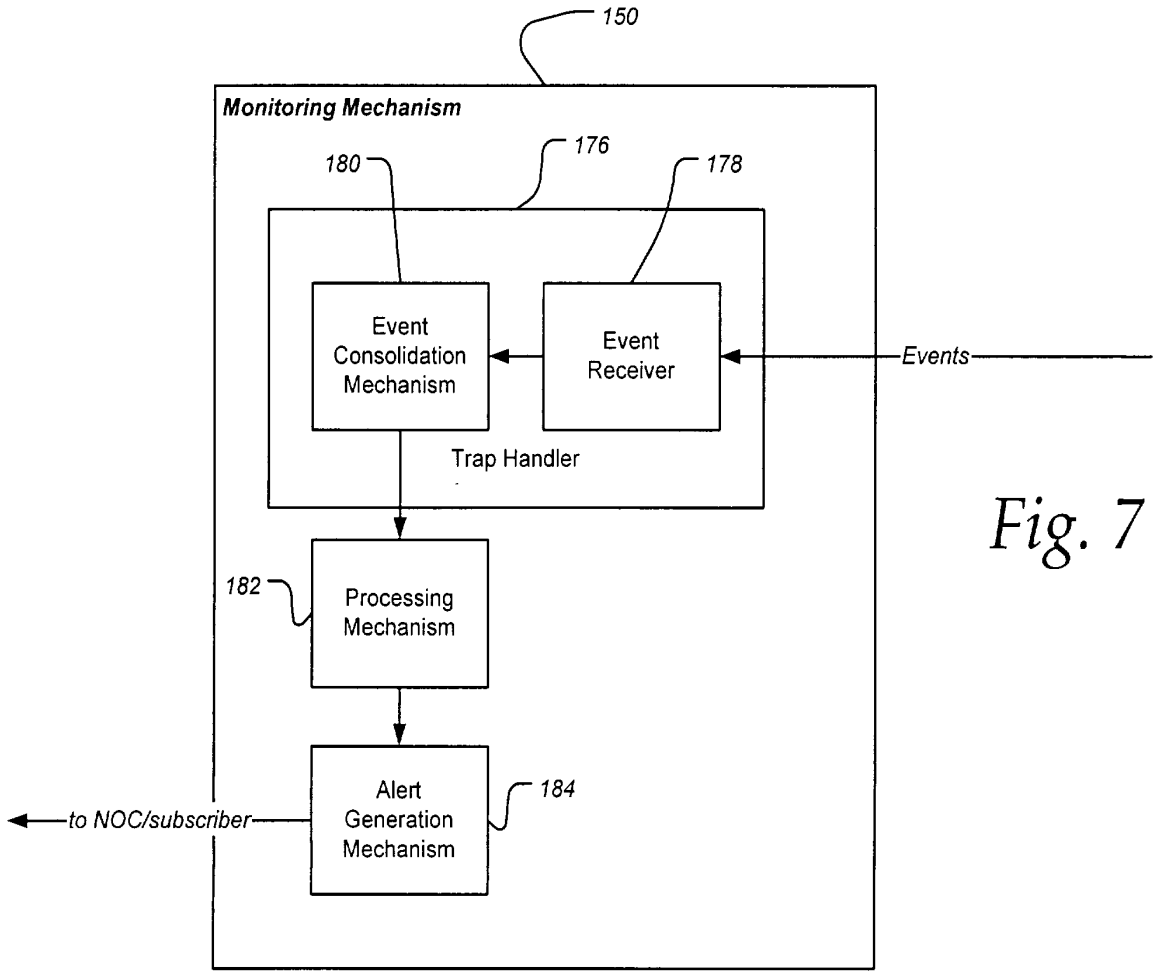


Fig. 7

0074

Docket No. 018404/0283007

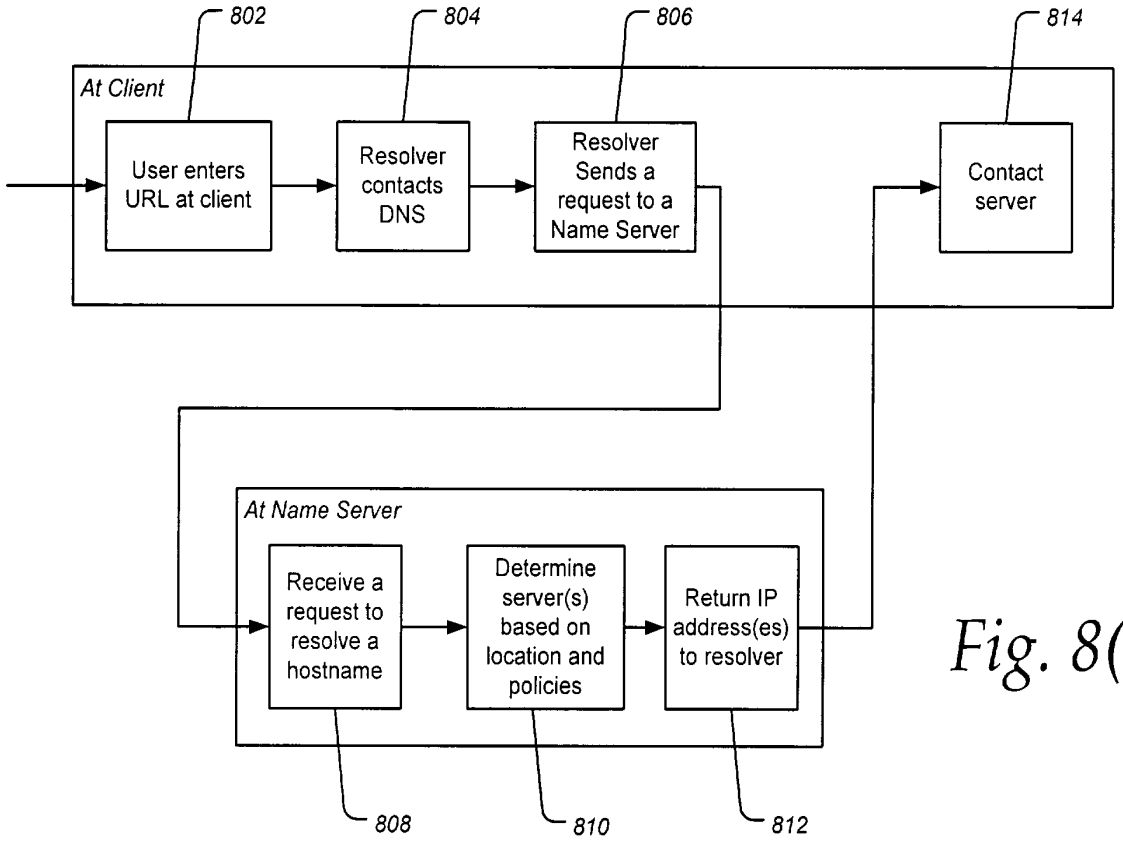


Fig. 8(a)

0075

Docket No. 0283007

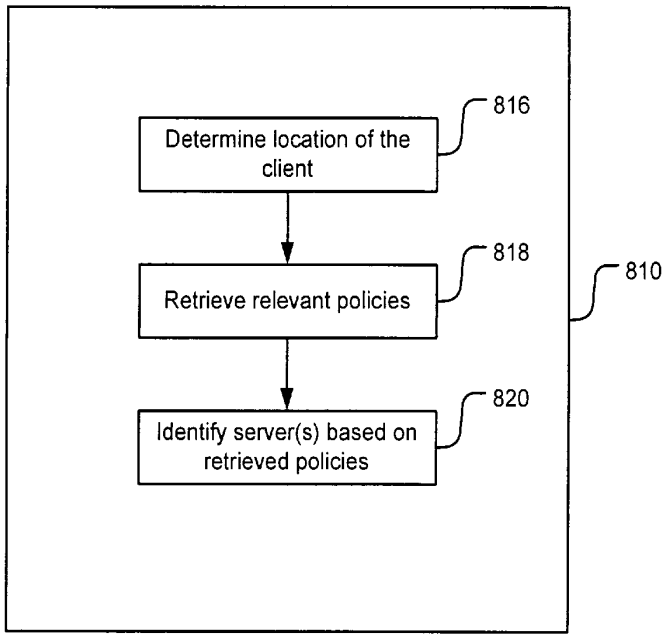


Fig. 8(b)

0076

4825492 .0930202

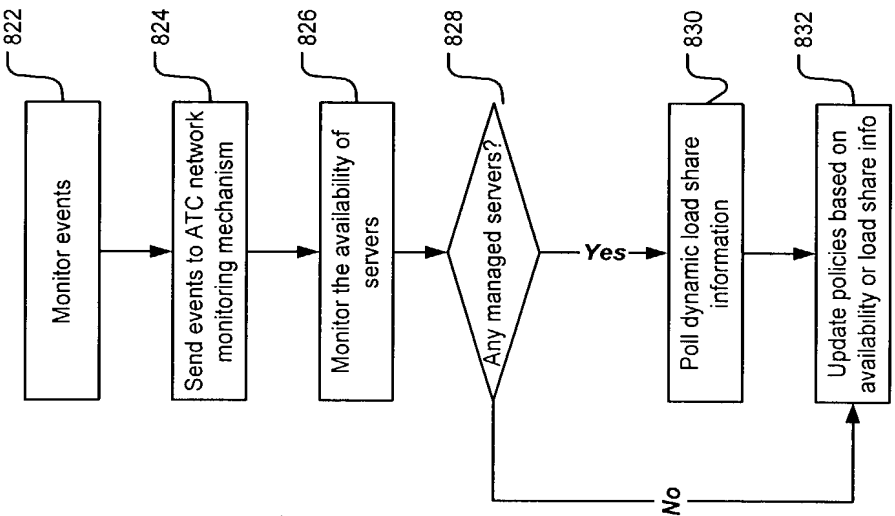

822
Monitor events
824
Send events to ATC network monitoring mechanism
826
Monitor the availability of servers
828
Any managed servers?
Yes
No
830
Poll dynamic load share information
832
Update policies based on availability or load share info

Fig. 8(c)

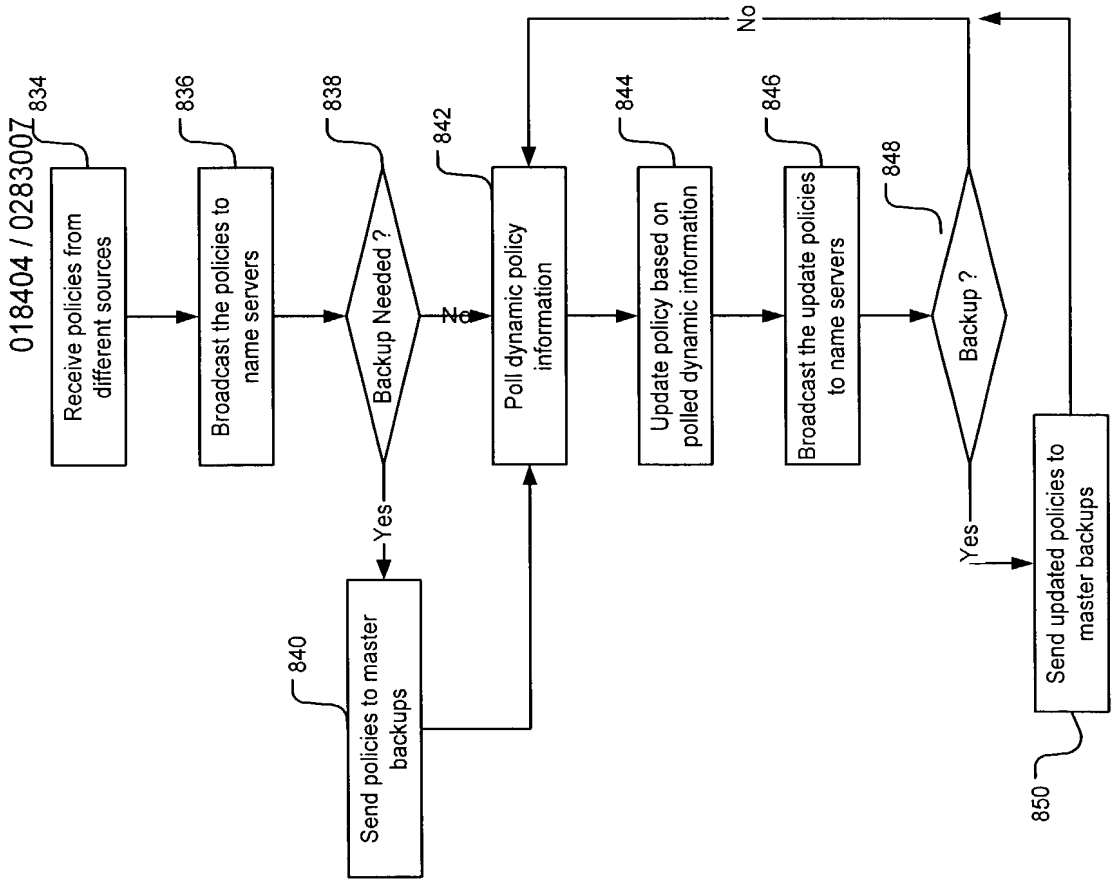

834
Receive policies from different sources
836
Broadcast the policies to name servers
838
Backup Needed ?
Yes
No
840
Send policies to master backups
842
Poll dynamic policy information
844
Update policy based on polled dynamic information
846
Broadcast the update policies to name servers
848
Backup ?
Yes
No
850
Send updated policies to master backups

Fig. 8(d)

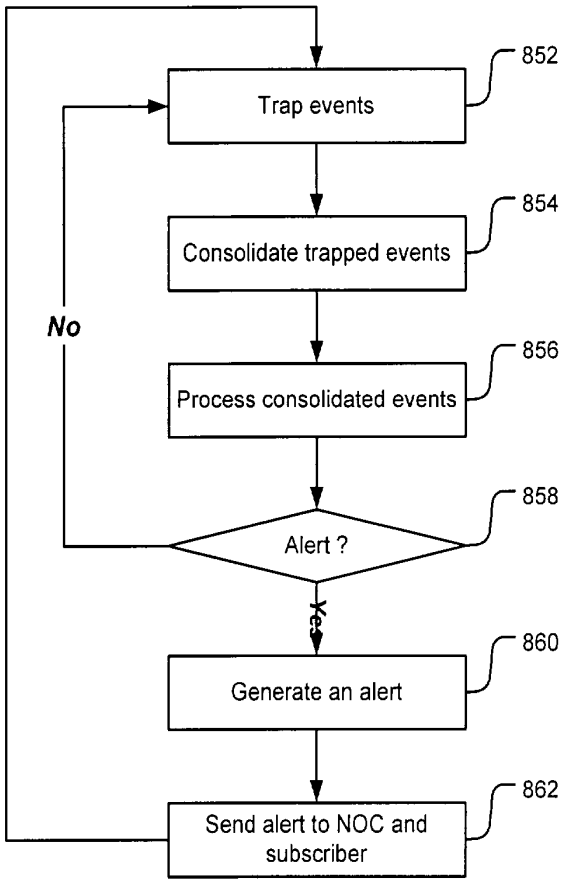


Fig. 8(e)

0079

Document: 018404/0283007

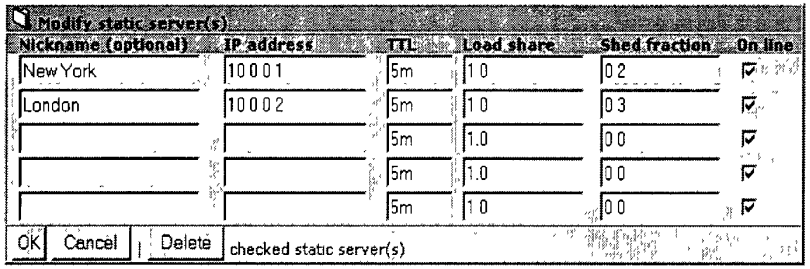


Fig. 9(a)

0080

EP 0 283 007 B1

Modify dynamic server(s)

Nickname	IP address	TTL	Server status URL	User name	Password
London	10003	5m	http://server	paul	**********
		5m	http://server		
		5m	http://server		
		5m	http://server		
		5m	http://server		

OK | Cancel | Delete checked dynamic server(s)

Fig. 9(b)

0081

Microsoft - Exhibit 1002 - Page 0081

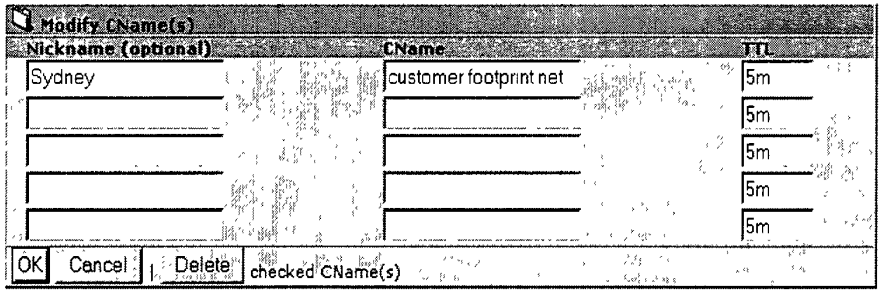


Fig. 9(c)

0082

EBAY 1050 Page 0082

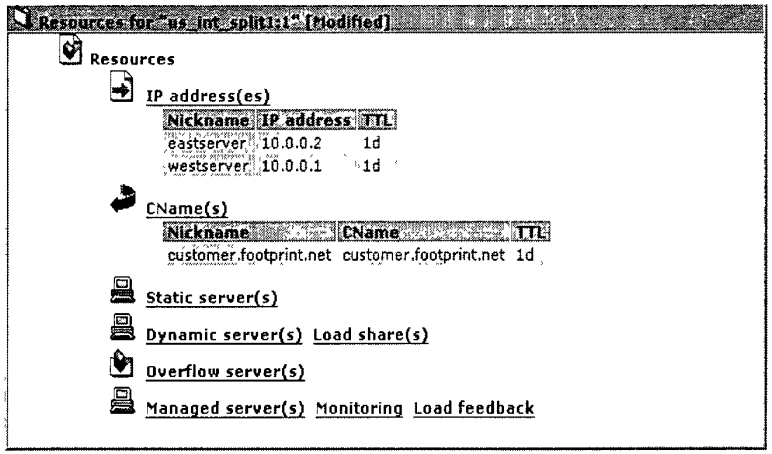


Fig. 10(a)

0083

Docket No. 0283007

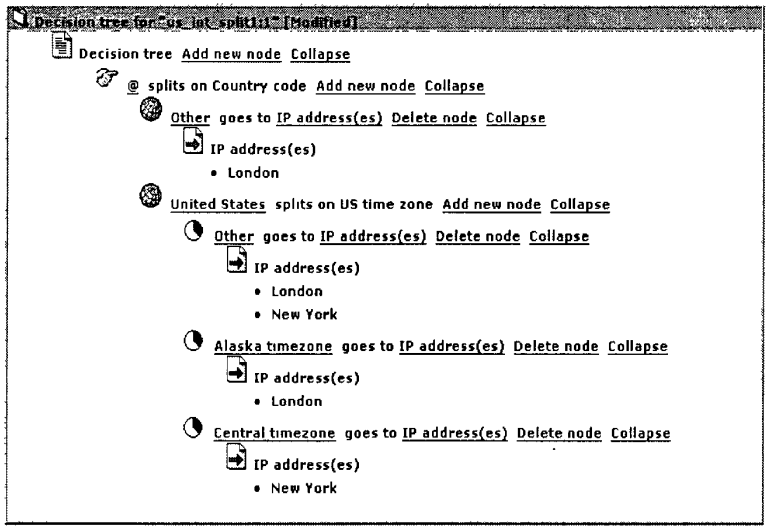


Fig. 10(b)

0084

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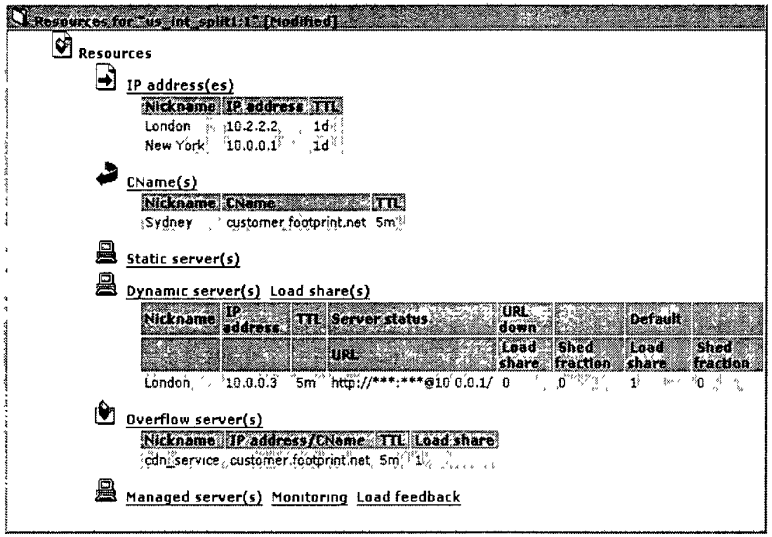


Fig. 10(c)

0085

4,626,949 - 05-06-2025

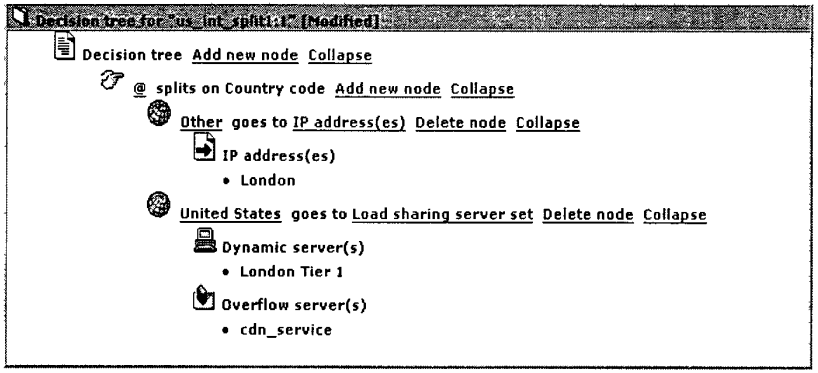


Fig. 10(d)

Page 9800

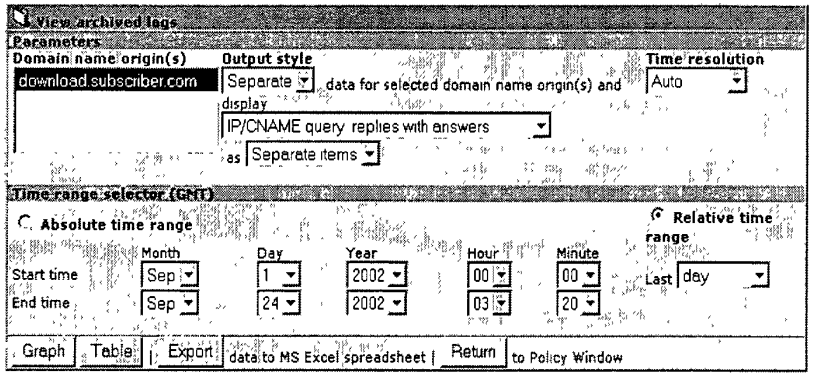


Fig. 11(a)

0087

EP 0 959 949 B1

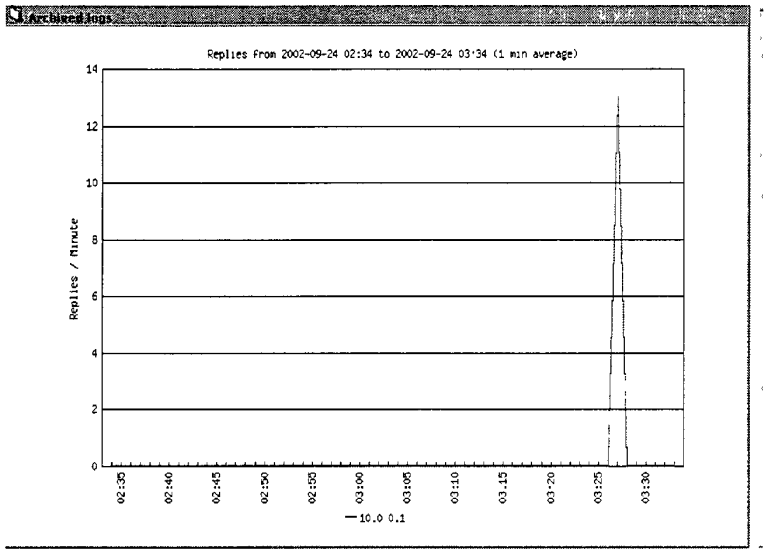

Archived logs
Replies from 2002-09-24 02:34 to 2002-09-24 03:34 (1 min average)
Replies / Minute
14
12
10
8
6
4
2
0
02:35
02:40
02:45
02:50
02:55
03:00
03:05
03:10
03:15
03:20
03:25
03:30
10.0 0.1

Fig. 11(b)

8800

Archived logs

Domain name origin(s): "download.subscriber.com"

Time (GMT)	IP/CNAME query: replies with answers	Number of replies	Replies per minute
09/24/02 02:30:00 - 09/24/02 02:45:00	No data found		
09/24/02 02:45:00 - 09/24/02 03:00:00	No data found		
09/24/02 03:00:00 - 09/24/02 03:15:00	No data found		
09/24/02 03:15:00 - 09/24/02 03:30:00	10.0.0.1	13	0.87
09/24/02 03:30:00 - 09/24/02 03:45:00	No data found		

Fig. 11(c)

6800

EP 0 954 149 B1

10259497 .193002

PW/BS FORM

FOR UTILITY/DESIGN
CIP/PCT NATIONAL/PLANT
ORIGINAL/SUBSTITUTE/SUPPLEMENTAL
DECLARATIONS

RULE 63 (37 C.F.R. 1.63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

the specification of which (CHECK applicable BOX(ES))

X A. ☐ is attached hereto.

BOX(ES) → B. X was filed on September 28, 2001 as U.S. Application No. 60325,177

→ → C. ☐ was filed as PCT International Application No. PCT/ / on

and (if applicable to U.S. or PCT application) was amended on

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F R. 1 56. Except as noted below, I hereby claim foreign priority benefits under 35 U.S C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International Application which designated at least one other country than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate, or PCT International Application, filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

PRIOR FOREIGN APPLICATION(S) Number	Country	Day/MONTH/Year Filed	Date first Laid-open or Published	Date Patented or Granted	Priority NOT Claimed

If more prior foreign applications, X box *at bottom* and continue on attached page.

Except as noted below, I hereby claim domestic priority benefit under 35 U.S C. 119(e) or 120 and/or 365(c) of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1 56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S) Application No. (series code/serial no.)	Day/MONTH/Year Filed	Status pending, abandoned, patented	Priority NOT Claimed

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

Please direct all correspondence to:
Brian Siritzky, Pillsbury Winthrop LLP, 1600 Tysons Boulevard, McLean, VA 22102
and direct all telephone calls to Brian Siritzky at (703) 905-2185

And I hereby appoint the below-named persons individually and collectively as my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary

Brian Siritzky	37497	Paul T. Bowen	38009	Jack S. Barufka	37087	Robert J. Walters	40862
Jeffrey. D. Karceski	35914	David A. Jakopin	32995	Adam R. Hess	41835	Brian J. Beatus	38825
George M. Sirilla	18221	Mark G. Paulson	30793	William P. Atkins	38821		
Donald J. Bird	25323	Stephen C. Glazier	31361	Paul L. Sharer	36004		
Dale S. Lazar	28872	Richard H. Zaitlen	27248	Robin L. Teskin	35030		
Glenn J. Perry	28458	Roger R. Wise	31204				
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"X" box x FOR ADDITIONAL INVENTORS, and proceed on the attached page to list each additional inventor.

☐ See additional foreign priorities on attached page (incorporated herein by reference).

Atty. Dkt. No. P0283007
(M#)

DECLARATION AND POWER OF ATTORNEY
(continued)
ADDITIONAL INVENTORS:

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(6) **INVENTOR'S SIGNATURE:** **Date:** 4/10/2002

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(7) **INVENTOR'S SIGNATURE:** Mark Brady **Date:** 4/10/2002

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(8) **INVENTOR'S SIGNATURE:** **Date:** 4/10/2002

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Mailing Address	951 Warwick Avenue, Apt. D-1, Thousand Oaks 555 Laurie Lane Apt C9 Thousand Oaks		
(include Zip Code)	CA 91360		

(9) **INVENTOR'S SIGNATURE:** **Date:**

	First	Middle Initial	Family Name
Residence			
	City	State/Foreign Country	Country of Citizenship
Mailing Address			
(include Zip Code)			

Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE

(a) ...Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability...(b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refutes, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§103. Condition for patentability; non-obvious subject matter

(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. . . .

(c) Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

* Six months for Design Applications (35 U.S.C. 172).

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

10/02/2002 GGEBREGI 00000066 033975 10259497

01 FC:101 740.00 CH
02 FC:103 1080.00 CH
03 FC:102 588.00 CH

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

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PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number
P 028364

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	80	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	80 minus 20=	* 60
INDEPENDENT CLAIMS	10 minus 3 =	* 7
MULTIPLE DEPENDENT CLAIM PRESENT		☐

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

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	370.00	OR	BASIC FEE	740.00
X$ 9=		OR	X$18=	1080
X42=		OR	X84=	588
+140=		OR	+280=	
TOTAL		OR	TOTAL	2408

CLAIMS AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
AMENDMENT A	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDI-TIONAL FEE		RATE	ADDI-TIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

		(Column 1)		(Column 2)	(Column 3)
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
AMENDMENT B	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDI-TIONAL FEE		RATE	ADDI-TIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

		(Column 1)		(Column 2)	(Column 3)
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
AMENDMENT C	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDI-TIONAL FEE		RATE	ADDI-TIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. 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.

Form PTO-447A
(Rev. 7-98)

Staple to face of Application

U.S. DEPARTMENT OF COMMERCE
PATENT & TRADEMARK OFFICE

APPLICATION TRANSFER REQUEST FOR S.N. 10259497

Section I. TRANSFER REQUEST BY

Name **FOLLANSBEE, JOHN A** Date **1/28/2003**

TO: Art Unit **2155** Class/sub **709/238**

FROM: A.U. **2156** Class _____

REASON:
domain name server

Gatekeeper concurrence _____

Section IIa. DISPOSITION BY RECEIVING TC

By: _____ **A.U.** _____ **Date** _____

NOT ACCEPTED ☐ Forward to receiving TC Post Classifier

REASON:

Section IIb. DISPOSITION BY RECEIVING TC POST CLASSIFIER

☐ This dispute was resolved. Forward to TC/AU _____ Class/Sub _____/_____ Post Classifier _____ Date _____

Concurring _____

☐ This dispute was not resolved, forward to DISPUTE RESOLUTION PANEL

Post Classifier Assessment:

Gatekeeper concurrence _____

Post Classifier _____ Date _____

Section III. DISPOSITION BY DISPUTE RESOLUTION PANEL

Date _____

Panel Decision:

Forward To Technology Center/Art Unit _____ Class/sub _____/_____

REASON:

Panel Member _____

Concurring Panel Member _____

OIPE JC16
MAY 16 2003
PATENT & TRADEMARK OFFICE

2156

Please type a plus sign (+) inside this box → [+]

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
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.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/259,497
Filing Date	September 30, 2002
First Named Inventor	Paul E. Stolorz
Group Art Unit	2156
Examiner Name	Unassigned
Total Number of Pages in This Submission	
Attorney Docket Number	39685-0012

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment / Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☒ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) ____
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:
  Statement Under 37 CFR 3.73 (B)
  Copy of Assignment

Remarks

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MAY 19 2003
Technology Center 2100

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Brian Siritzky Reg. No. 37,497
Signature	
Date	May 14, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name			
Signature		Date	

PATENT TRADEMARK OFFICE
26633
PATENT TRADEMARK OFFICE

OIPE SCIE
MAY 16 2003
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	Filing Date	Group Art Unit	Examiner	Attorney Docket No.
09/906,288	7/16/2001	2857	Wachsman, Hal D.	39685-0008
10/259,497	9/30/2002	2156	Not Yet Assigned	39685-0012
10/073,938	2/14/2002	2171	Not Yet Assigned	39685-0014
60/377,982	5/7/2002		Not Yet Assigned	39685-0020
10/190,495	7/9/2002	2152	Not Yet Assigned	39685-0024
10/318,025	12/13/2002	2151	Not Yet Assigned	39685-0027
10/315,214	12/10/2002	2156	Not Yet Assigned	39685-0028

REVOCATION AND APPOINTMENT OF NEW ATTORNEY AND CHANGE OF ADDRESS

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Technology Center 2100

Commissioner for Patents
Washington, D.C. 20231

Sir:

Revocation and Appointment of New Attorney

Applicant revokes all previous powers of attorney and appoints the following registered attorneys and agents of the law firm of Heller Ehrman White & McAuliffe to have full power to prosecute these applications and any and all continuations, divisions, reissues, and reexaminations thereof, to receive the patents, and to transact any and all business in the United States Patent and Trademark Office connected therewith:

BRIAN SIRITZKY	Reg. No. 37,497
PAUL BOOTH	Reg. No. 40,244
PATRICIA D. GRANADOS	Reg. No. 33,683
JOHN P. ISACSON	Reg. No. 33,715
RONALD J. KAMIS	Reg. No. 41,104
JOHNNY A. KUMAR	Reg. No. 34,649
MARVIN A. MOTSENBOCKER	Reg. No. 36,614
COLIN G. SANDERCOCK	Reg. No. 31,298

OIPE JC184
MAY 16 2003
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

STATEMENT UNDER 37 CFR 3.73 (B)

Patent Owner **Cable & Wireless Internet Services, Inc, a corporation** states that it is the assignee of the entire right, title and interest in and to the following Patent Applications Nos. **10/190,495, 10/259,497, 10/073,938, 09/906,288**, by virtue of:

---

re Application No. 10/190,495

Filed: July 9, 2002

Entitled: SYSTEMS, METHODS AND PROTOCOLS FOR SECURING DATA IN TRANSIT OVER NETWORKS

An assignment from the inventor(s) of the patent application. The assignment was recorded in the Patent and Trademark Office at Reel 013096, Frame 0562, and a copy thereof is attached.

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---

re Application No. 10/259,497

Filed: September 30, 2002

Entitled: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

A chain of title from the inventor(s), of the patent application identified above, to the current assignee as shown below:

1. From: *Inventors* To: *Digital Island, Inc.*

The document was recorded in the United States Patent and Trademark Office at Reel 13353, Frame 0957, and for which a copy thereof is attached.

2. From: *Digital Island, Inc.* To: *Cable & Wireless Internet Services, Inc.* (by virtue of a Name Change)

The document was recorded in the United States Patent and Trademark Office at Reel 13353, Frame 0917, or for which a copy thereof is attached.

STATEMENT UNDER 37 CFR 3.73 (B)

re Application No. 10/073,938

Filed: February 14, 2002

Entitled: MANAGED OBJECT REPLICATION AND DELIVERY

A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: *Inventors* To: *Digital Island, Inc.*

The document was recorded in the United States Patent and Trademark Office at Reel 12587, Frame 0397, or for which a copy thereof is attached.

2. From: *Digital Island*, Inc. To: *Cable & Wireless Internet Services, Inc.* (by virtue of a name change).

The document was filed in the United States Patent and Trademark Office, which a copy thereof is attached.

re

Application No. 09/906,288

Filed: July 16, 2001

Entitled: SYSTEM AND METHOD FOR PROVIDING COMPOSITE VARIANCE ANALYSIS FOR NETWORK OPERATION

An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel 012977, Frame 0758, or for which a copy thereof is attached.

The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the assignee.

14 MARCH 2003
Date

Signature

K. D. Wallman
Typed or Printed Name

SVP + General Counsel.
Title

OIPE
MAY 1 6 2003
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

STATEMENT UNDER 37 CFR 3.73 (B)

Patent Owner **Cable & Wireless plc, a corporation** states that it is the assignee of the entire right, title and interest in and to the following Patent Applications Nos. 10/318,025 and 10/315,214, by virtue of:

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---

re Application No. 10/318,025

Filed: December 13, 2002

Entitled: Event Monitoring System and Method

An assignment from the inventor(s). The assignment was filed in the Patent and Trademark Office, which a copy thereof is attached.

Application No. 10/315,214

Filed: December 10, 2002

Entitled: PRODUCT TOOL KIT SYSTEM AND METHOD

An assignment from the inventor(s). The assignment was filed in the Patent and Trademark Office, which a copy thereof is attached.

The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the assignee.

14 MARCH 2003 | [signature]

Date | **Signature**

K.D. Wallman

Typed or Printed Name

SVP & General Counsel

Title

DC 77694 v2
3/14/03 11:09 AM (39685.0001)

OIPE JC184
MAY 14 2003
PATENT & TRADEMARK OFFICE

Change of Address

Please associate this application with Customer Number 26633.

Please direct all written communications to Brian Siritzky at HELLER EHRMAN WHITE & McAULIFFE LLP, 1666 K Street, N.W., Suite 300, Washington, D.C. 20006, and direct all telephone communications to (202) 912-2000.

Respectfully submitted,

Dated: 14 MARCH 2003

By: [signature]

Title: SVP + General Counsel

UNITED STATES PATENT AND TRADEMARK OFFICE

OIPE JC20 MAY 14 2003 PATENT & TRADEMARK OFFICE

Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.gov

JANUARY 14, 2003

PTAS

PILLSBURY WINTHROP LLP
BRIAN SIRITZKY
P.O. BOX 1500
INTELLECTUAL PROPERTY GROUP
MCLEAN, VA 22102

102243961A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/30/2002

REEL/FRAME: 013353/0917
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
DIGITAL ISLAND, INC.

DOC DATE: 02/12/2002

ASSIGNEE:
CABLE & WIRELESS INTERNET
SERVICES, INC.
45 FREMONT STREET
SAN FRANCISCO, CALIFORNIA 94150

SERIAL NUMBER: 10259497
PATENT NUMBER:

FILING DATE: 09/30/2002
ISSUE DATE:

VIOLET MCCOY, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

RECEIVED
JAN 31 2003
By

10-08-2002

BOX ASSIGNMENTS

DO NOT USE FOR TRADEMARKS

9.30-02 P

102243961

TO THE ASSISTANT COMMISSIONER FOR PATENTS:
SIR: PLEASE RECORD THE ATTACHED ORIGINAL DOCUMENTS OR COPY THEREOF.

J1033 U.S. PTO 10/259497 09/30/02

1. NAME OF CONVEYING PARTY(IES) (ASSIGNORS(S)):

1. Digital Island, Inc.	2.
3.	4.
5.	6.
7.	8.

ADDITIONAL NAME(S) OF CONVEYING PARTY(IES) ATTACHED? ☐YES ☒NO

2. PARTY(IES) (ASSIGNEE(S)) RECEIVING INTEREST:

RECEIVED
MAY 19 2003
Technology Center 2100

NAME: Cable & Wireless Internet Services, Inc.

ADDRESS: 45 Fremont Street, San Francisco, CA 94150

ADDITIONAL NAME(S) & ADDRESS(ES) ATTACHED? ☐YES ☒NO

3. NATURE OF CONVEYANCE (DOCUMENT):
(Submit herewith only one document for recordation—multiple copies of same Assignment signed by different inventors is one document)

☐ASSIGNMENT OF ☐WHOLE ☐PART INTEREST
☐ORIGINAL ☐FACSIMILE/PHOTOCOPY
☒CHANGE OF NAME ☐VERIFIED TRANSLATION
☐SECURITY ☐MERGER ☐OTHER:

EXEC. DATE: February 12, 2002

EXECUTION DATE(S) ON THE DECLARATION IF FILED HEREWITH: (NOTE: IF DATES ON DECLARATION AND ASSIGNMENT DIFFER SEE ATTY!)

4.5 APPL. NO.(S) OR PAT NO.(S). OTHERS ON ADDITIONAL SHEET(S) attached? ☐YES ☐NO

A. PAT. APP. NO.(S) series code/serial no	M#	1st INVENTOR if not in item 1	B. PATENT NO(S)	M#	1st INVENTOR if not in item 1
	0283641				

5. Name & Address of Party to Whom Correspondence Concerning Document Should be Mailed:

Pillsbury Winthrop LLP
Intellectual Property Group
P.O. Box 10500 McLean, VA 22102

6. NUMBER INVOLVED:
APPLNS 1 + PATS 0 = TOTAL = 1

7. AMOUNT OF FEE DUE: (Code 581)
ABOVE TOTAL x $40 = $40
10/259497

5.5 ATTY DKT:

P 0283641	ATC
MATTER NO.	CLIENT REF.

8. **PLEASE CHARGE** TO OUR DEPOSIT ACCOUNT NUMBER: 03-3975

UNDER ORDER NO	018404	0283641
dup. sheet not required	CLIENT NO.	MATTER NO.

9. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Signature

10. Total number of pages including this cover sheet, attachments and document (do not file dup. Cover sheet): 4

Attorney: Brian Siritzky
Reg. No. 37497 Date: September 30, 2002
Atty/Sec: BS/mjd TEL: (703) 905-2185 FAX: (703) 905-2500

FILE WITH PTO RETURN RECEIPT (PAT-103A)

10/07/2002 DBYRNE 00000118 033975 10259497
01 FC:581 40.00 CH

30321250_1

PAT-114X 5/02

Delaware

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "DIGITAL ISLAND, INC.", CHANGING ITS NAME FROM "DIGITAL ISLAND, INC." TO "CABLE & WIRELESS INTERNET SERVICES, INC.", FILED IN THIS OFFICE ON THE TWELFTH DAY OF FEBRUARY, A.D. 2002, AT 9 O'CLOCK A.M.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

3016554 8100

AUTHENTICATION: 1936267

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 02/12/2002
020095043 - 3016554

CERTIFICATE OF AMENDMENT OF THE CERTIFICATE OF INCORPORATION OF DIGITAL ISLAND, INC., a Delaware corporation

The undersigned William M. Austin and Howard Lasky hereby certify that:

ONE: They are the duly elected and acting Chief Executive Officer and Secretary, respectively, of said corporation.

TWO: The Amended and Restated Certificate of Incorporation of said corporation, last filed on July 2, 1999 shall be amended as set forth in this Certificate of Amendment.

THREE: Article First of the Certificate of Incorporation of said corporation is hereby amended to read in its entirety as follows:

"FIRST. The name of the corporation is Cable & Wireless Internet Services, Inc. (hereinafter sometimes called the "Corporation")."

FOUR: This amendment of the Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Sections 228 and 242 of the General Corporation law of the State of Delaware.

The undersigned further declare under penalty of perjury that the matters set forth in this Certificate of Amendment are true and correct of their own knowledge.

IN WITNESS WHEREOF, the undersigned have executed this Certificate of Amendment at San Francisco, California, on this 12th day of February, 2002.

William M. Austin, *Chief Executive Officer*

Howard Family, *Secretary*

UNITED STATES
PATENT AND
TRADEMARK OFFICE

MAY 14 2003

JANUARY 14, 2003

PTAS

Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.gov

WILLSBURY WINTHROP LLP
PO BOX 10500
MCLEAN, VA 22102

102243962A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/30/2002

REEL/FRAME: 013353/0957
NUMBER OF PAGES: 17

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
YEVMENKIN, MAKSIM — DOC DATE: 10/08/2001

ASSIGNOR:
STOLORZ, PAUL E. — DOC DATE: 10/08/2001

ASSIGNOR:
SALMON, JOHN K — DOC DATE: 10/10/2001

ASSIGNOR:
WARREN, MICHAEL S. — DOC DATE: 10/09/2001

ASSIGNOR:
PFITZNER, DAVID — DOC DATE: 10/08/2001

ASSIGNOR:
KOLLER, JEFFREY — DOC DATE: 10/08/2001

ASSIGNOR:
HAGBERG, ARIC — DOC DATE: 10/09/2001

ASSIGNOR:
BRADY, MARK

DOC DATE: 10/08/2001

ASSIGNEE:
DIGITAL ISLAND, INC.
45 FREMONT STREET, 12TH FLOOR
SAN FRANCISCO, CALIFORNIA 94105

SERIAL NUMBER: 10259497
PATENT NUMBER:

FILING DATE: 09/30/2002
ISSUE DATE:

ANTIONE ROYALL, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

MAY 14 2003 PATENT & TRADEMARK OFFICE

10-08-2002

102243962

BOX ASSIGNMENTS

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9/30/02

J1033 US PTO 10/259497 09/30/02

TO THE ASSISTANT COMMISSIONER OF PATENTS AND TRADEMARKS:
SIR: PLEASE RECORD THE ATTACHED ORIGINAL DOCUMENTS OR COPY THEREOF.

1. NAME OF CONVEYING PARTY(IES) (ASSIGNORS(S)):
1. Maksim Yevmenkin
2. David Pfitzner
3. Paul E.Stolorz
4. Jeffrey Koller
5. Michael S. Warren
6. Aric Hagberg
7. John K. Salmon
8. Mark Brady

ADDITIONAL NAME(S) OF CONVEYING PARTY(IES) ATTACHED? ☐YES ☒NO

2. PARTY(IES) (ASSIGNEE(S)) RECEIVING INTEREST:

NAME: Digital Island, Inc.

ADDRESS: 45 Fremont Street, 12th Floor, San Francisco, CA 94105

ADDITIONAL NAME(S) & ADDRESS(ES) ATTACHED? ☐YES ☒NO

3. NATURE OF CONVEYANCE (DOCUMENT):
(Submit herewith only one document for recordation—multiple copies of same Assignment signed by different inventors is one document)

☒ASSIGNMENT OF ☒WHOLE ☐PART INTEREST
☐ORIGINAL ☒FACSIMILE/PHOTOCOPY
☐CHANGE OF NAME ☐VERIFIED TRANSLATION
☐SECURITY ☐MERGER ☐OTHER:

EXEC. DATE: October 8, 2001; October 9, 2001; October 10, 2001

EXECUTION DATE(S) ON THE DECLARATION IF FILED HEREWITH: (**NOTE**: IF DATES ON DECLARATION AND ASSIGNMENT DIFFER SEE ATTY!)

4.5 APPL. NO.(S) OR PAT NO.(S). OTHERS ON ADDITIONAL SHEET(S) attached? ☐YES ☒NO

A. PAT. APP. NO.(S) series code/serial no	M#	1st INVENTOR if not in item 1	B. PATENT NO(S)	M#	1st INVENTOR if not in item 1
	0283641				

5. Name & Address of Party to Whom Correspondence Concerning Document Should be Mailed:

Pillsbury Winthrop LLP
Intellectual Property Group
P.O. Box 10500 McLean, VA 22102

6. NUMBER INVOLVED:
APPLNS 1 + PATS 0 = TOTAL = 1

7. AMOUNT OF FEE DUE: (Code 581)
ABOVE TOTAL x $40 = $40

10/259497

5.5 ATTY DKT:

P 0283641	ATC
MATTER NO.	CLIENT REF.

8. **PLEASE CHARGE** TO OUR DEPOSIT ACCOUNT NUMBER: 03-3975

UNDER ORDER NO	018404	0283641
dup. sheet not required	CLIENT NO.	MATTER NO.

9. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Signature

10. Total number of pages including this cover sheet, attachments and document (do not file dup. Cover sheet): 17

Attorney: Brian Siritzky
Reg. No. 37497
Atty/Sec: BS/mjd
Date: September 30, 2002
TEL: (703) 905-2185
FAX: (703) 905-2500

FILE WITH PTO RETURN RECEIPT (PAT-103A)

10/07/2002 DBYRNE 00000119 033975 10259497
01 FC:581 40.00 CH

ASSIGNMENT

WHEREAS, I, **Maksim Yevmenkin** ("Assignor"), a citizen of Russia, residing at 1760 Via Petirrojo Apt. I, Thousand Oaks, CA 91320, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

8TH day of OCTOBER, 2001.

Maksim Yevmenkin, Assignor

STATE OF CALIFORNIA :
: SS
COUNTY OF VENTURA :

On this 8TH day of OCTOBER, 2001, before me personally appeared **Maksim Yevmenkin** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Notary Public

(SEAL)
My Commission Expires:

12-15-04

THEODORE S. JESSEE
Commission # 1284486
Notary Public - California
Ventura County
My Comm. Expires Dec 15, 2004

ASSIGNMENT

WHEREAS, I, **David Pfitzner** ("Assignor"), a citizen of Australia, residing at 951 Warwick Avenue, Apt. D-1, thousand Oaks, CA 91360, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

8TH day of OCTOBER, 2001.

David Pfitzner, Assignor

STATE OF CALIFORNIA :
: SS
COUNTY OF VENTURA :

On this 8TH day of OCTOBER, 2001, before me personally appeared **David Pfitzner** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Notary Public

(SEAL)
My Commission Expires:

12-15-04

THEODORE S. JESSEE
Commission # 1284486
Notary Public - California
Ventura County
My Comm. Expires Dec 15, 2004

ASSIGNMENT

WHEREAS, I, **Paul E. Stolorz** ("Assignor"), a citizen of Australia, residing at 776 Calle Mandarinas, Thousand Oaks, CA 91360, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

8TH day of OCTOBER, 2001.

Paul E. Stolorz, Assignor

STATE OF CALIFORNIA :
: SS
COUNTY OF VENTURA :

On this 8TH day of OCTOBER, 2001, before me personally appeared **Paul E. Stolorz** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Notary Public

(SEAL)
My Commission Expires:

12-15-04

THEODORE S. JESSEE
Commission # 1284486
Notary Public - California
Ventura County
My Comm. Expires Dec 15, 2004

ASSIGNMENT

WHEREAS, I, **Jeffrey Koller** ("Assignor"), a citizen of the United States of America, residing at 60 Camino de los Montoyas, Santa Fe, NM 87501, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

8TH day of OCTOBER, 2001.

Jeffrey Koller, Assignor

STATE OF CALIFORNIA :
: SS
COUNTY OF VENTURA :

On this 8TH day of OCTOBER, 2001, before me personally appeared **Jeffrey Koller** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Notary Public

(SEAL)
My Commission Expires:

12-15-04

THEODORE S. JESSEE
Commission # 1284486
Notary Public - California
Ventura County
My Comm. Expires Dec 15, 2004

ASSIGNMENT

WHEREAS, I, **Michael S. Warren** ("Assignor"), a citizen of the United States of America, residing at 240 Taos Rd, Altadena, CA 91001, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 9th day of October, 2001.

Michael S. Warren, Assignor

STATE OF New Mexico :
: SS
COUNTY OF Santa Fe :

On this 9th day of Oct, 2001, before me personally appeared **Michael S. Warren** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Notary Public

OFFICIAL SEAL
GARY A. WEIDNER
NOTARY PUBLIC STATE OF NEW MEXICO

(SEAL) My commission expires:
My Commission Expires: 7/22/03

ASSIGNMENT

WHEREAS, I, **Aric Hagberg** ("Assignor"), a citizen of the United States of America, residing at 22330 Meyler St., Apt. 1, Torrance, CA 90502, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

9TH day of OCTOBER, 2001.

Aric Hagberg, Assignor

STATE OF New Mexico :
: SS
COUNTY OF Santa Fe :

On this 9th day of Oct, 2001, before me personally appeared **Aric Hagberg** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

OFFICIAL SEAL
GARY A. WEIDNER
NOTARY PUBLIC STATE OF NEW MEXICO
My commission expires: 4/22/03

Notary Public

(SEAL)
My Commission Expires: 4/22/03

ASSIGNMENT

WHEREAS, I, **John K. Salmon** ("Assignor"), a citizen of the United States of America, residing at 240 Taos Rd, Altadena, CA 91001, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for and in consideration of the sum of One Dollar ($1.00) to me in hand paid by the said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all divisions, reissues, continuations and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, associated with the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all divisional, reissue and continuation applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything possible for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

10 day of October, 2001.

John K. Salmon, Assignor

STATE OF California :
: SS
COUNTY OF Los Angeles :

On this 10th day of October, 2001, before me personally appeared **John K. Salmon** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

A. G. Hargraves
Notary Public

(SEAL)
My Commission Expires: 9/13/03

A. G. HARGRAVES
COMM. # 1234560
NOTARY PUBLIC, CALFORNIA
LOS ANGELES COUNTY
My Comm. Expires Sep. 13, 2003

ASSIGNMENT

WHEREAS, I, **Mark Brady** ("Assignor"), a citizen of the United States of America, residing at 115 West Avenida de Los Arboles, Thousand Oaks, CA 91360, have invented certain new and useful inventions entitled "CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT" for which I executed an Application for Letters Patent of the same title in the United States Patent and Trademark Office on September 28, 2001, patent application number 60/325,177.

WHEREAS, Digital Island, Inc. ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at 45 Fremont Street, 12th Floor, San Francisco, CA 94105, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

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NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP to insert hereon any further identification necessary or desirable for recordation of this document.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this

8TH day of OCTOBER, 2001.

Mark Brady

Mark Brady, Assignor

STATE OF CALIFORNIA :
: SS
COUNTY OF VENTURA :

On this 8TH day of OCTOBER, 2001, before me personally appeared **Mark Brady** to me known to be the person whose name is subscribed in the foregoing instrument, and who acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

Theodore S. Jessee

Notary Public

(SEAL)
My Commission Expires:

12-15-04

THEODORE S. JESSEE
Commission # 1284486
Notary Public - California
Ventura County
My Comm. Expires Dec 15, 2004

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/259,497	09/30/2002	Paul E. Stolorz	P 0283641 ATC

CONFIRMATION NO. 5284

OC000000010126651

00909
PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

Date Mailed: 05/28/2003

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/14/2003.

- 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).

IQUIEA P HARRIS
2100 (703) 306-4141

OFFICE COPY

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/259,497	09/30/2002	Paul E. Stolorz	P 0283641 ATC

CONFIRMATION NO. 5284

OC000000010126721

26633
HELLER EHRMAN WHITE & MCAULIFFE LLP
1666 K STREET,NW
SUITE 300
WASHINGTON, DC 20006

Date Mailed: 05/28/2003

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/14/2003.

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.

IQUIEA P HARRIS
2100 (703) 306-4141

OFFICE COPY

OIPE
JAN 23 2004
TRADEMARK OFF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: 39685-0012

Applicant(s): Paul E. STOLORZ et al. Confirmation No. 5284

Appl. No.: 10/259,497 Examiner: Unassigned

Filing Date: September 30, 2002 Group Art Unit: 2156

Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56 and 37 CFR §1.97

RECEIVED
JAN 27 2004
Technology Center 2100

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

Sir:

Submitted herewith on Form PTO/SB/08A is a listing of documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 C.F.R. §1.56 and §1.97. A copy of each of the listed documents are being submitted to comply with the provisions of 37 C.F.R. §1.97-1.99.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* prior art reference against the claims of the present application.

RELEVANCE

The foregoing documents came to the Applicants attention during a search of the corresponding international application. A copy of the International Search Report setting forth the portion of each reference considered relevant by the examiner is attached.

TIMING/FEE

The instant Information Disclosure Statement is being filed in compliance with 37 CFR §1.97(b) prior to the mailing date of the first official action, therefore, no fee is required in connection with its filing. However, the Commissioner is hereby authorized to charge any deficiency or to credit any overpayment to Deposit Account No. 08-1641.

The undersigned hereby states in accordance with 37 C.F.R. §1.97(e)(1) that each item of information contained in this Information Disclosure Statement was first cited in communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of this Information Disclosure Statement.

Applicants respectfully request that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08A be returned in accordance with M.P.E.P. §609.

Respectfully submitted,

Date: 1/23/2004

By _____

HELLER EHRMAN WHITE & MCAULIFFE
1666 K Street, NW, Suite 300
Washington, D.C. 20006
Telephone: (202) 912-2000
Facsimile: (202) 912-2020

Brian Siritzky
Attorney for Applicant
Reg. No.: 37,497

Customer No. 26633

#4 SP 1-28-04

Please type a plus sign (+) inside this box → [+]

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
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.

OIPE JAN 23 2004 TRADEMARK OFFICE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/259,497
Filing Date	September 30, 2002
First Named Inventor	Paul E. Stolorz et al
Group Art Unit	2156
Examiner Name	Unassigned
Total Number of Pages in This Submission	**Attorney Docket Number** 39685-0012

RECEIVED JAN 27 2004 Technology Center 2100

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment / Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☒ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) ____
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:
  Form SB/08A (w/3 references); copy of International Search Report

Remarks

FORMAL JAN 28 2004 OIPE/IAP USPTO

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	Brian Siritzky, Reg. No. 37,497, Customer No. 26633
Signature	B Siritzky
Date	1/23/2004

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date: ____

Typed or printed name			
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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	10/259,497
Filing Date	September 30, 2002
First Named Inventor	Paul E. STOLORZ et al.
Group Art Unit	2156
Examiner Name	Unassigned
Attorney Docket Number	39685-0012

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JAN 2 3 2004
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JAN 27 2004
Technology Center 2100

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A01	6,282,574	B1	Voit	8/28/2001	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	A02	EP	0 817 444	A2	Sun Microsystems, Inc.	1/7/1998		
	A03	WIPO	00/52594	A2	ULTRADNS, INC.	9/8/2000		

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] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [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 hee if English language Translation is attached.

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 NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
10/259,497		2155	06B0

Change of Address/Power of Attorney

The following fields have been set to Customer Number 42624 on 02/02/2005

- Correspondence Address
- Power of Attorney
- Maintenance Fee Address

The address of record for Customer Number 42624 is:
DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4501 NORTH FAIRFAX DRIVE, SUITE 920
ARLINGTON, VA 22203

The Practitioners of record for Customer Number 42624 are:

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Delaware

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "SAVVIS ASSET HOLDINGS, INC.", CHANGING ITS NAME FROM "SAVVIS ASSET HOLDINGS, INC." TO "SAVVIS, INC.", FILED IN THIS OFFICE ON THE EIGHTH DAY OF MARCH, A.D. 2004, AT 11:39 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

3752675 8100

040171451

AUTHENTICATION: 2974022

DATE: 03-08-04

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State of Delaware
Secretary of State
Division of Corporations
Delivered 11:39 AM 03/08/2004
FILED 11:39 AM 03/08/2004
SRV 040171451 – 3752675 FILE

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF

SAVVIS ASSET HOLDINGS, INC.

It is hereby certified that:

FIRST: The name of the corporation is SAVVIS Asset Holdings, Inc., a corporation organized and existing under the applicable laws of the State of Delaware (hereinafter the "Corporation").

SECOND: The certificate of incorporation of the Corporation is hereby amended by deleting Article First thereof and substituting in lieu of said Article the following new Article:

"FIRST. The name of the corporation (hereinafter called the "Corporation") is SAVVIS, Inc."

THIRD: This Certificate of Amendment has been duly adopted and written consent has been given in accordance with the provisions of Section 228 and Section 242 of the General Corporation Law of the State of Delaware.

Dated: March 8, 2004

SAVVIS Asset Holdings, Inc., a Delaware corporation

By: _____

Name: Grier C. Raclin
Title: Secretary

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In re Patent Application of:		Atty. Dkt. No.:	2615-0054
STOLORZ, Paul E.		Group Art Unit:	2155
		Confirmation No.:	7737
Appln. No.:	10/259,497	Examiner:	Alam, H.T.
Filed:	September 30, 2002	Date:	April 1, 2005
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT		

Name of paper being transmitted: **Power of Attorney and Revocation of Prior Powers and Change of Correspondence Address; Statement Under 37 CFR 3.73(b); Change of Name Documents (2 sets of documentation)**

Message:

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office at the above facsimile number on the date shown below.

Name: Emily Lindenberg Signature: Emily Lindenberg Date: April 1, 2005

CUSTOMER NUMBER
00004624

Davidson Berquist Jackson & Gowdey LLP

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

Power of Attorney And Revocation of Prior Powers

Sir:

Submitted herewith is a Revocation of Power of Attorney With New Power of Attorney And Change of Correspondence Address for filing in the above-referenced patent application.

CUSTOMER NUMBER
00004624

Respectfully submitted,

By: Brian Siritzky 4/1/2005
Brian Siritzky
Registration No.: 37,497

DAVIDSON BERQUIST JACKSON & GOWDEY LLP

PAGE 1/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

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REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS		
	Application Number:	10/259,497
	Filing Date:	September 30, 2002
	First Named Inventor:	STOLORZ, Paul E.
	Group Art Unit:	2155
	Examiner Name:	Alam, H.T
	Attorney Docket No.:	2615-0054

I hereby revoke all previous powers of attorney given in the above-identified application

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners associated with the Customer Number: 000042624

☒ Please change the correspondence address for the above-identified application to:

☐ The address associated with Customer Number: 000042624

OR

☐	Firm or Individual Name		
Address Line 1			
Address Line 2			
City		State	
Country			
Telephone		Fax	

I am the:

☐ Applicant / Inventor

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Name	Zane Shahrooz		
Signature			
Date	3/29/05	Telephone	408 346 2074

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ Total of 2 form(s) are submitted.

This collection of information is required by 37 CFR 1.36. 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 3 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

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant / Patent Owner: SAVVIS, Inc.

Application No. / Patent No.: 10/259,497 Filing Date: September 30, 2002

Entitled: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Assignee: Savvis, Inc. A Delaware Corporation

States that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest
The extent (by percentage) of its ownership interest is % in the patent application / patent
Identified above by virtue of either:

A ☐ An assignment from the inventor(s) of the patent application / patent identified above The assignment was recorded in the United States Patent and Trademark Office at Reel , Frame , or for which a copy thereof is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application / patent identified above, to the current assignee shown below:

1. From: Inventors To: Digital Island, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel 013353 Frame 0957, or for which a copy thereof is attached.

2. From: Digital Island, Inc. To: Cable and Wireless Internet Services, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel 013353 Frame 0917, or for which a copy thereof is attached.

3. From: Cable and Wireless Internet Services, Inc. To: Savvis Asset Holdings, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel _____ Frame _____, or for which a copy thereof is attached.

4. From: Savvis Asset Holdings, Inc. To: Savvis, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel _____ Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____ Frame _____, or for which a copy thereof is attached

6. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____ Frame _____, or for which a copy thereof is attached.

☒ Copies of assignments or other documents in the chain of title are attached

[Note: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3. If the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	3/29/05 Date
Zane Shahroody Printed or Typed Name	408 346 2074 Telephone Number
Senior Corporate Counsel Title	

This collection of information is required by 37 CFR 1.36. 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 3 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

INTELLECTUAL PROPERTY ASSIGNMENT

THIS INTELLECTUAL PROPERTY ASSIGNMENT (this "Assignment") is entered into as of this 13 day of February, 2004, by and between Cable & Wireless USA, Inc. ("CWUSA"), a Delaware corporation, and Cable & Wireless Internet Services, Inc., a Delaware corporation, ("CWIS," and together with CWUSA and their respective subsidiaries set forth on Annex I to the Asset Purchase Agreement, as defined below, the "Sellers") on the one hand (each an "Assignor" and collectively, "Assignors"), and Savvis Asset Holdings, Inc., a Delaware corporation ("Assignee"), on the other hand. Capitalized terms used and not defined herein shall have the respective meanings ascribed thereto in the Asset Purchase Agreement.

WHEREAS, Assignors and Assignee are parties to that certain Asset Purchase Agreement dated as of January 23, 2004 (as amended, the "Asset Purchase Agreement"), pursuant to which Assignors have agreed to sell and Assignee has agreed to purchase the Acquired Assets in accordance with the Asset Purchase Agreement; and

WHEREAS, Assignee wishes to acquire and Assignors wish to assign all of their respective right, title and interest in and to the following intellectual property, with each such Assignor assigning the intellectual property with which it is identified as set forth on the attached Schedules: (i) those United States patents and patent applications identified and set forth on Schedule A and the non-United States patents and patent applications identified and set forth on Schedule B (collectively, the "Patents"); (ii) those United States trademark registrations and trademark applications identified and set forth on Schedule C, and the non-United States trademark registrations and trademark applications identified and set forth on Schedule D, in each case, together with all of the goodwill associated therewith (collectively, the "Trademarks"); (iii) those United States copyrights identified and set forth in Schedule E (the "Copyrights"), and (iv) those domain name registrations identified and set forth on Schedule F (the "Domain Names").

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

Each Assignor does hereby sell, assign, transfer, convey and set over to Assignee, all of such Assignor's right, title and interest in and to (i) the Patents, all inventions claimed or disclosed therein, all reissues, reexaminations, continuations, extensions, divisions, supplemental protections thereof and all U.S. and foreign applications and patents or registrations relating thereto; (ii) the Trademarks, together with all extensions and renewals thereof, and all common law rights thereto; (iii) the Copyrights, together with all extensions, reversions and renewals thereof; and (iv) the Domain Names, for Assignee's use and enjoyment, and for the use and enjoyment of Assignee's successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment had not been made; together, with respect to the foregoing, with all income, royalties, damages or payments due or payable as of the effective date of this Assignment and thereafter, including, without limitation, all claims for damages and other relief by reason of past, present or future infringement, dilution, violation, misuse or other unauthorized use of the Patents, Trademarks, Copyrights and Domain Names, with all rights to sue for, and collect the same for Assignee's use

PAGE 5/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

and enjoyment, and for the use and enjoyment of Assignee's successors, assigns, or other legal representatives.

This Assignment shall not become effective unless and until the occurrence of the Final Escrow Closing (as such term is defined in the Closing Escrow Agreement). Should such Final Escrow Closing not occur, this Assignment shall not be, or ever become, valid or enforceable.

Assignors agree to perform such other acts and to execute, acknowledge and/or deliver subsequent to the Closing, such other instruments, documents and other materials which the Assignee, its successors or assigns, may deem proper for the collection or reduction to possession of any of the Patents, Trademarks, Copyrights and Domain Names assigned hereunder or for the collection and enforcement of any claim or right of any kind hereby intended to be sold, conveyed, transferred, assigned and delivered, or intended so to be. If the parties to this Assignment agree that any Patent, Trademark, Copyright or Domain Name was intended by them to be an Acquired Asset was inadvertently not transferred to Assignee as an Acquired Asset under the terms of that certain Bill of Sale and Assignment entered into between the parties as of even date herewith, the parties to this Assignment shall take such actions as may be required to properly convey such Patent, Trademark, Copyright or Domain Name to Assignee hereunder, including without limitation the execution of an amendment to this Assignment.

Assignors hereby request the Commissioner of Patents and Trademarks of the United States, the Register of Copyrights of the United States and any official of any state or foreign country whose duty it is to issue intellectual property registrations, to issue all registrations from any applications for registration included in the Patents, Trademarks, Copyrights and Domain Names to Assignee.

Assignors hereby request the Commissioner of Patents and Trademarks, the Register of Copyrights of the United States and the corresponding entities or agencies in any applicable foreign countries, to record Assignee as the assignee and owner of the Patents, Trademarks, Copyrights and Domain Names.

This Assignment shall be governed by, and construed in accordance with, the laws of the State of New York.

* * * * *

PAGE 6/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

IN WITNESS WHEREOF, the Assignors and Assignee have caused this Assignment to be signed by the undersigned officers thereunto duly authorized on the date first above written.

Assignors

CABLE & WIRELESS USA, INC.

Name: Eric A. Simonsen
Title: Vice President

CABLE & WIRELESS INTERNET SERVICES, INC.

Name: Eric A. Simonsen
Title: Vice President

Assignee

SAVVIS ASSET HOLDINGS, INC.

Name:
Title:

PAGE 7/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

IN WITNESS WHEREOF, the Assignors and Assignee have caused this Assignment to be signed by the undersigned officers thereunto duly authorized on the date first above written.

Assignors

CABLE & WIRELESS USA, INC.	CABLE & WIRELESS INTERNET SERVICES, INC.
_____	_____
Name:_____	Name:_____
Title:_____	Title:_____

Assignee

SAVVIS ASSET HOLDINGS, INC.

_____

Name: Grier C. Raclin

Title: Chief Legal Officer + Corporate Secretary

PAGE 8/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

SCHEDULE A

U.S. PATENTS AND PATENT APPLICATIONS

U.S.	09/888,966	6,473,405	Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	06/25/01	ISSUED	10/29/02
U.S.	283160	6,415,280	Cable & Wireless Internet Services, Inc.	IDENTIFYING AND REQUESTING DATA IN NETWORK USING IDENTIFIERS WHICH ARE BASED ON CONTENTS OF DATA	04/01/99	ISSUED	07/2/02
U.S.	09/336,487	6,275,470	Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	06/18/99	ISSUED	08/14/01
U.S.	09/021,506	6,185,598	Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	02/10/98	ISSUED	02/06/01
U.S.	08/710,106	6,154,753	Cable & Wireless USA, Inc.	DOCUMENT MANAGEMENT SYSTEM AND METHOD FOR BUSINESS QUALITY MODELING	09/12/96	ISSUED	11/27/00
U.S.	09/151,935	6,130,890	Cable & Wireless Internet Services, Inc.	METHOD AND SYSTEM FOR OPTIMIZING ROUTING OF DATA PACKETS	09/11/98	ISSUED	10/10/00
U.S.	960079	5,978,791	Cable & Wireless Internet Services, Inc. and Kinetech	IDENTIFYING AND REQUESTING DATA IN NETWORK USING IDENTIFIERS WHICH ARE BASED ON CONTENTS OF DATA	10/24/97	ISSUED	11/02/99
U.S.	10/004,430	6,654,807	Cable & Wireless Internet Services, Inc.	INTERNET CONTENT DELIVERY NETWORK	12/06/01	ISSUED	11/25/03
U.S.	10/259,497		Cable & Wireless Internet Services, Inc.	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	09/30/02	PUBLISHED	
U.S.	09/906,288		Cable & Wireless Internet Service	SYSTEM AND METHOD FOR PROVIDING COMPOSITE VARIANCE ANALYSIS FOR NETWORK OPERATION	07/16/02	PUBLISHED	
U.S.	10/192,182		Cable & Wireless Internet Services, Inc.	METHODS AND SYSTEMS FOR SHARED STORAGE VIRTUALIZATION	07/09/02	PUBLISHED	
U.S.	10/174,481		Cable & Wireless Internet Services, Inc.	REAL-TIME STREAMING MEDIA MEASUREMENT SYSTEM AND METHOD	06/19/02	PUBLISHED	
U.S.	10/173,512		Cable & Wireless Internet Services, Inc.	SECURED SHARED STORAGE ARCHITECTURE	06/14/02	PUBLISHED	
U.S.	10/095,811		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	03/13/02	PUBLISHED	
U.S.	10/004,430		Cable & Wireless Internet Services, Inc.	INTERNET CONTENT DELIVERY NETWORK	12/06/01	PUBLISHED CLAIMS ALLOWED	
U.S.	09/916,628		Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	07/27/01	PUBLISHED	

U.S.	09/987,223		Cable & Wireless Internet Services, Inc. and Kinetech	IDENTIFYING DATA IN A DATA PROCESSING SYSTEM	04/01/99	PUBLISHED	
U.S.	10/430,373		Inventions		05/07/03	FILED/NOT PUBLISHED	
U.S.	10/318,025		Cable & Wireless Internet Services, Inc.		12/13/02	FILED/NOT PUBLISHED	
U.S.	10/315,214		Cable & Wireless Internet Services, Inc.		12/10/02	FILED/NOT PUBLISHED	
U.S.	10/190,495		Cable & Wireless Internet Services, Inc.		07/09/02	FILED/NOT PUBLISHED	
U.S.	09/980,990		Cable & Wireless Internet Services, Inc.		05/26/02	FILED/NOT PUBLISHED	
U.S.	10/071,938		Cable & Wireless Internet Services, Inc.		02/14/02	FILED/NOT PUBLISHED	
U.S.	09/612,598		Cable & Wireless Internet Services, Inc.		07/07/00	FILED/NOT PUBLISHED	
U.S.	09/603,174		Cable & Wireless Internet Services, Inc.		06/23/00	FILED/NOT PUBLISHED	

-5-

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SCHEDULE B

FOREIGN PATENTS

AUSTRALIA	26529/99		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	02/09/99	ACCEPTED	
CANADA	2,374,621		Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	06/16/00	PUBLISHED	
CANADA	2,320,261		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	02/09/99	PUBLISHED	
EPO	128346.4		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	02/09/99	ISSUED; VALIDATED IN UK 7/23/03	
EPO	941508.4		Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	06/16/00	PUBLISHED	
EPO	99906680.6		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	2/09/99	PUBLISHED	
EPO	96910762.2		Cable & Wireless Internet Services, Inc. and Kinetech	IDENTIFYING DATA IN A DATA PROCESSING SYSTEM	4/09/96	PUBLISHED	
EPO	1,232,453		Cable & Wireless USA, Inc.	SYSTEM AND APPARATUS FOR DELIVERYING UNIQUE MESSAGES	6/12/00	published	
HONG KONG	1103543.5		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	5/02/01	PUBLISHED	
JAPAN	2001-504633		Cable & Wireless Internet Services, Inc.	ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS	6/16/00	PUBLISHED	
JAPAN	2000-530860		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	2/09/99	PUBLISHED	
JAPAN	531073/1996		Cable & Wireless Internet Services, Inc. and Kinetech	IDENTIFYING DATA IN A DATA PROCESSING SYSTEM		PUBLISHED	
NORWAY	20004010		Cable & Wireless Internet Services, Inc.	OPTIMIZED NETWORK RESOURCE LOCATION	2/09/99	PUBLISHED	
PCT	PCT/US02/30921		Cable & Wireless Internet Services, Inc.	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	9/30/02	PUBLISHED	
PCT	PCT/US02/21721		Cable & Wireless Internet Services, Inc.	METHODS AND SYSTEMS FOR SHARED STORAGE VIRTUALIZATION	8/26/02	PUBLISHED	
PCT	PCT/US02/22553		Cable & Wireless Internet Services, Inc.	SYSTEM AND METHOD FOR PROVIDING COMPOSITE VARIANCE ANALYSIS FOR NETWORK OPERATION	7/16/02	PUBLISHED	
PCT	PCT/US02/19338		Cable & Wireless Internet Services, Inc.	REAL-TIME STREAMING MEDIA MEASUREMENT SYSTEM AND METHOD	6/19/02	PUBLISHED	
PCT	PCT/US02/32363		Cable & Wireless Internet Services, Inc.	SECURED SHARED STORAGE ARCHITECTURE	6/14/02	PUBLISHED	
PCT	PCT/US03/04108		Cable & Wireless Internet Services, Inc.		2/11/03	FILED/NOT PUBLISHED	

TAIWAN	88116516	133064	Cable & Wireless Internet Services, Inc.	METHOD AND SYSTEM FOR OPTIMIZING ROUTING OF DATA PACKETS		ISSUED	9/24/01

PAGE 12/22 * RCVD AT 4/1/2005 1:35:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:703 248 9558 * DURATION (mm-ss):08-28

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0147

SCHEDULE C

U.S. TRADEMARKS

800 BUSINESS BUILDERS	Cable & Wireless USA, Inc.	2,075,098	07/01/1997	Registered
DIGITAL ISLAND	Cable & Wireless Internet Services, Inc.	2,137,844	02/17/1998	Registered
DIGITAL ISLAND & Design	Cable & Wireless Internet Services, Inc.	2,524,334	01/01/2002	Registered
EXODUS	Cable & Wireless Internet Services, Inc.	2,289,845	11/02/1999	Registered
EXODUS & Design	Cable & Wireless Internet Services, Inc.	2,486,578	09/11/2001	Registered
EXODUS COMMUNICATIONS	Cable & Wireless Internet Services, Inc.	2,371,376	07/25/2000	Registered
FOOTPRINT	Cable & Wireless Internet Services, Inc.	2,348,162	05/09/2000	Registered
FOOTPRINT MANAGER	Cable & Wireless Internet Services, Inc.	2,404,656	11/14/2000	Registered
INTERNET SHOCK ABSORBER	Cable & Wireless USA, Inc.	2,435,908	03/13/2001	Registered
MANAGED 800	Cable & Wireless USA, Inc.	1,840,091	06/14/1994	Registered
Miscellaneous Design (circle w/ wavy line)	Cable & Wireless Internet Services, Inc.	2,511,927	11/27/2001	Registered
POWERFUL SOLUTIONS FOR YOUR BUSINESS COMMUNICATION	Cable & Wireless USA, Inc.	2,118,803	12/09/1997	Registered
PRECISION	Cable & Wireless USA, Inc.	2,310,112	01/25/2000	Registered
SANDPIPER	Cable & Wireless Internet Services, Inc.	2,495,272	10/09/2001	Registered
SANDPIPER NETWORKS	Cable & Wireless Internet Services, Inc.	2,348,163	05/09/2000	Registered
SUREFAX	Cable & Wireless USA, Inc.	1,665,533	11/19/91	Registered
TELE-SITE	Cable & Wireless USA, Inc.	1,657,640	9/17/91	Registered
THE RELIABILITY OF A LARGE CARRIER... THE FLEXIBI...	Cable & Wireless USA, Inc.	2,112,943	11/11/1997	Registered
TRACEWARE	Cable & Wireless Internet Services, Inc.	2,432,671	03/06/2001	Registered
UNI-T	Cable & Wireless USA, Inc.	1,594,572	05/01/1990	Registered

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SCHEDULE D

FOREIGN TRADEMARKS AND TRADEMARK APPLICATIONS

DIGITAL ISLAND	Australia	Cable & Wireless Internet Services, Inc.	787,926	03/10/1999
E EXODUS (and Design Horizontal)	Australia	Cable & Wireless Internet Services, Inc.	838,996	06/15/2000
E EXODUS (and Design Stacked)	Australia	Cable & Wireless Internet Services, Inc.	825,247	02/25/2000
EXODUS	Australia	Cable & Wireless Internet Services, Inc.	825,245	02/25/2000
EXODUS	Australia	Cable & Wireless Internet Services, Inc.	825,248	02/25/2000
SM-SCENARIO	Australia	Cable & Wireless Internet Services, Inc.	834,106	05/05/2000
SM-WEBPOINT	Australia	Cable & Wireless Internet Services, Inc.	824,590	02/22/2000
DIGITAL ISLAND	Benelux	Cable & Wireless Internet Services, Inc.	627,765	08/27/1997
TRACEWARE	Benelux	Cable & Wireless Internet Services, Inc.	668,621	05/20/1999
DIGITAL ISLAND	Brazil	Cable & Wireless Internet Services, Inc.	820,208,094	03/09/1997
DIGITAL ISLAND	Brazil	Cable & Wireless Internet Services, Inc.	820,208,035	03/09/1997
EXODUS	Brazil	Cable & Wireless Internet Services, Inc.	478,685	06/01/2001
EXODUS (and Design Horizontal)	Brazil	Cable & Wireless Internet Services, Inc.	478,684	06/01/2001
EXODUS (and Design Stacked)	Brazil	Cable & Wireless Internet Services, Inc.	478,634	06/01/2001
EXODUS COMMUNICATIONS	Brazil	Cable & Wireless Internet Services, Inc.	478,686	06/01/2001
SM-WEBPOINT	Brazil	Cable & Wireless Internet Services, Inc.	822,467,852	02/22/2000
DIGITAL ISLAND	Canada	Cable & Wireless Internet Services, Inc.	TMA531,443	08/18/2000
EXODUS	Canada	Cable & Wireless Internet Services, Inc.	TMA574,902	01/31/2003
EXODUS (and Design Horizontal)	Canada	Cable & Wireless Internet Services, Inc.	TMA576,247	02/24/2003
EXODUS (and Design Stacked)	Canada	Cable & Wireless Internet Services, Inc.	TMA575,612	02/13/2003
EXODUS COMMUNICATIONS	Canada	Cable & Wireless Internet Services, Inc.	TMA574,958	02/03/2003
FOOTPRINT	Canada	Cable & Wireless Internet Services, Inc.	1,097,885	03/29/2001
DIGITAL ISLAND & Design (Cl. 38, 42)	Chile	Cable & Wireless Internet Services, Inc.	635,510	07/08/2002
DIGITAL ISLAND & Design (Cl. 9)	Chile	Cable & Wireless Internet Services, Inc.	635,514	07/08/2002
DIGITAL ISLAND	China	Cable & Wireless Internet Services, Inc.	1,272,262	05/07/1999
EXODUS	China	Cable & Wireless Internet Services, Inc.	2000/079324	
EXODUS (and Design Horizontal)	China	Cable & Wireless Internet Services, Inc.	2000/079326	
EXODUS (and Design Stacked)	China	Cable & Wireless Internet Services, Inc.	2000/079327	
EXODUS COMMUNICATIONS	China	Cable & Wireless Internet Services, Inc.	2000/079325	
FOOTPRINT (Cl. 38)	China	Cable & Wireless Internet Services, Inc.	1,714,122	02/14/2002

FOOTPRINT (Cl. 9)	China	Cable & Wireless Internet Services, Inc.	1,739,878	03/28/2002
DIGITAL ISLAND	CTM	Cable & Wireless Internet Services, Inc.	0,611,830	03/24/2000
E EXODUS	CTM	Cable & Wireless Internet Services, Inc.	1,733,922	06/16/2000
EXODUS	CTM	Cable & Wireless Internet Services, Inc.	0,988,055	11/10/1998
EXODUS COMMUNICATIONS	CTM	Cable & Wireless Internet Services, Inc.	1,223,866	06/24/1999
EXODUS Device	CTM	Cable & Wireless Internet Services, Inc.	1,013,887	12/08/1998
FOOTPRINT	CTM	Cable & Wireless Internet Services, Inc.	2,150,902	04/24/2002
INFRASTRUCTURE FOR THE DIGITAL ECONOMY	CTM	Cable & Wireless Internet Services, Inc.	1,983,121	11/22/00
SM-SCENARIO	CTM	Cable & Wireless Internet Services, Inc.	1,645,530	05/09/2000
SM-WEBPOINT	CTM	Cable & Wireless Internet Services, Inc.	1,520,840	03/22/2000
E EXODUS (and Design Horizontal)	Czech Republic	Cable & Wireless Internet Services, Inc.	237,408	05/26/2000
E EXODUS (and Design Stacked)	Czech Republic	Cable & Wireless Internet Services, Inc.	237,407	05/26/2000
EXODUS	Czech Republic	Cable & Wireless Internet Services, Inc.	237,405	05/26/2000
EXODUS COMMUNICATIONS	Czech Republic	Cable & Wireless Internet Services, Inc.	237,406	10/22/2001
DIGITAL ISLAND	France	Cable & Wireless Internet Services, Inc.	97/692,686	08/26/1997
DIGITAL ISLAND	Germany	Cable & Wireless Internet Services, Inc.	39,740,746	09/07/2000
TRACEWARE	Germany	Cable & Wireless Internet Services, Inc.	39,929,157.1	03/20/1999
DIGITAL ISLAND (Cl. 38)	Hong Kong	Cable & Wireless Internet Services, Inc.	B14,489/1999	08/28/1997
DIGITAL ISLAND (Cl. 42)	Hong Kong	Cable & Wireless Internet Services, Inc.	B-02,504/2000	08/28/1997
EXODUS (and Design Horizontal/Stacked))	Hong Kong	Cable & Wireless Internet Services, Inc.	11067/2000	05/19/2000
EXODUS EXODUS COMMUNICATIONS	Hong Kong	Cable & Wireless Internet Services, Inc.	11066/2000	05/19/2000
FOOTPRINT (Cl. 38)	Hong Kong	Cable & Wireless Internet Services, Inc.	2001-05398	04/04/2001
FOOTPRINT (Cl. 9)	Hong Kong	Cable & Wireless Internet Services, Inc.	2001-05397	04/04/2001
EXODUS	India	Cable & Wireless Internet Services, Inc.	929,525	
EXODUS (and Design Horizontal)	India	Cable & Wireless Internet Services, Inc.	929,528	
EXODUS (and Design Stacked)	India	Cable & Wireless Internet Services, Inc.	929,527	
EXODUS COMMUNICATIONS	India	Cable & Wireless Internet Services, Inc.	929,526	
EXODUS	Indonesia	Cable & Wireless Internet Services, Inc.	478,684	06/07/2000
EXODUS (and Design Horizontal)	Indonesia	Cable & Wireless Internet Services, Inc.	478,685	06/07/2000
EXODUS (and Design Stacked)	Indonesia	Cable & Wireless Internet Services, Inc.	478,634	06/07/2000
EXODUS COMMUNICATIONS	Indonesia	Cable & Wireless Internet Services, Inc.	478,685	06/07/2000
DIGITAL ISLAND (Cl. 38)	Israel	Cable & Wireless Internet Services, Inc.	126,499	03/15/1999

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DIGITAL ISLAND (Cl. 42)	Israel	Cable & Wireless Internet Services, Inc.	126,500	03/15/1999	
DIGITAL ISLAND	Italy	Cable & Wireless Internet Services, Inc.	810,989	04/26/2000	
DIGITAL ISLAND	Japan	Cable & Wireless Internet Services, Inc.	4,422,960	10/06/2000	
EXODUS	Japan	Cable & Wireless Internet Services, Inc.	4,508,918	09/21/2001	
EXODUS (and Design Horizontal)	Japan	Cable & Wireless Internet Services, Inc.	4,508,989	09/21/2001	
EXODUS (and Design Stacked)	Japan	Cable & Wireless Internet Services, Inc.	4,508,920	09/21/2001	
EXODUS COMMUNICATIONS	Japan	Cable & Wireless Internet Services, Inc.	4,508,919	09/21/2001	
ROOTPRINT	Japan	Cable & Wireless Internet Services, Inc.	4,634,166	01/10/2003	
SM-SCENARIO	Japan	Cable & Wireless Internet Services, Inc.	2000-57838	03/26/2000	
SM-WEBPOINT	Japan	Cable & Wireless Internet Services, Inc.	4,561,551	04/19/2002	
TRACEWARE	Japan	Cable & Wireless Internet Services, Inc.	4,641,499	01/31/2003	
EXODUS	Malaysia	Cable & Wireless Internet Services, Inc.	2000/8203		
EXODUS (and Design Horizontal &)	Malaysia	Cable & Wireless Internet Services, Inc.	2000-08204		
EXODUS COMMUNICATIONS	Malaysia	Cable & Wireless Internet Services, Inc.	2000/7853		
DIGITAL ISLAND (Cl. 38)	Mexico	Cable & Wireless Internet Services, Inc.	633,920	08/26/1999	
DIGITAL ISLAND (Cl. 42)	Mexico	Cable & Wireless Internet Services, Inc.	628,317	08/26/1999	
EXODUS	Mexico	Cable & Wireless Internet Services, Inc.	678,426	05/26/2000	
EXODUS (and Design Horizontal)	Mexico	Cable & Wireless Internet Services, Inc.	690,347	05/26/2000	
EXODUS (and Design Stacked)	Mexico	Cable & Wireless Internet Services, Inc.	690,346	05/26/2000	
EXODUS COMMUNICATIONS	Mexico	Cable & Wireless Internet Services, Inc.	678,427	05/26/2000	
g*EXODUS (and Design Horizontal)	New Zealand	Cable & Wireless Internet Services, Inc.	614,974	11/09/2001	
e*EXODUS (and Design Stacked)	New Zealand	Cable & Wireless Internet Services, Inc.	614,973	11/09/2001	
EXODUS	New Zealand	Cable & Wireless Internet Services, Inc.	614,971	11/23/2000	
EXODUS COMMUNICATIONS	New Zealand	Cable & Wireless Internet Services, Inc.	614,972	11/23/2000	
DIGITAL ISLAND	Russian Federation	Cable & Wireless Internet Services, Inc.	99,703,398	03/15/1999	
DIGITAL ISLAND (Cl. 38)	Singapore	Cable & Wireless Internet Services, Inc.	10,653/1997	08/30/1997	
DIGITAL ISLAND (Cl. 42)	Singapore	Cable & Wireless Internet Services, Inc.	10,654/1997	08/30/1997	
EXODUS (and Design Horizontal)	Singapore	Cable & Wireless Internet Services, Inc.	T00/10627 Z		
EXODUS (and Design Stacked)	Singapore	Cable & Wireless Internet Services, Inc.	T00/03380 I		
EXODUS (and design)	Singapore	Cable & Wireless Internet Services, Inc.	T00/07255C	03/03/2000	
EXODUS (Cl. 35)	Singapore	Cable & Wireless Internet Services, Inc.	T00/07259F	03/03/2000	
EXODUS (Cl. 42)	Singapore	Cable & Wireless Internet Services, Inc.	T00/03379E	03/03/2000	
EXODUS COMMUNICATIONS (Cl. 35)	Singapore	Cable & Wireless Internet Services, Inc.	T00/07257 Z	03/03/2000	
EXODUS COMMUNICATIONS (Cl. 42)	Singapore	Cable & Wireless Internet Services, Inc.	3381/00		

SM-SCENARIO	Singapore	Cable & Wireless Internet Services, Inc.	T00007792Z	11/29/1999
SM-WEBFRONT	Singapore	Cable & Wireless Internet Services, Inc.	T00007793H	05/10/2000
DIGITAL ISLAND	South Korea	Cable & Wireless Internet Services, Inc.	53,258	02/10/1999
EXODUS	South Korea	Cable & Wireless Internet Services, Inc.	71506	11/05/2001
EXODUS (and Design Horizontal)	South Korea	Cable & Wireless Internet Services, Inc.	71505	11/05/2001
EXODUS (and Design Stacked)	South Korea	Cable & Wireless Internet Services, Inc.	71504	11/05/2001
EXODUS COMMUNICATIONS	South Korea	Cable & Wireless Internet Services, Inc.	71503	11/05/2001
TRACEWARE	Switzerland	Cable & Wireless Internet Services, Inc.	4,718/99	05/21/1999
DIGITAL ISLAND	Taiwan	Cable & Wireless Internet Services, Inc.	88,011,062	12/01/2000
EXODUS	Thailand	Cable & Wireless Internet Services, Inc.	Bor13285	06/07/2000
EXODUS (and Design Horizontal)	Thailand	Cable & Wireless Internet Services, Inc.	Bor13284	06/07/2000
EXODUS (and Design Stacked)	Thailand	Cable & Wireless Internet Services, Inc.	Bor13283	06/07/2000
EXODUS COMMUNICATIONS	Thailand	Cable & Wireless Internet Services, Inc.	Bor13710	06/07/2000
DIGITAC ISLAND	United Kingdom	Cable & Wireless Internet Services, Inc.	2,142,965	09/04/1998
TRACEWARE	United Kingdom	Cable & Wireless Internet Services, Inc.	2,197,828	07/07/2000

SCHEDULE E

UNITED STATES COPYRIGHTS

LabExpert: version 2.2	TX-4-739-121	2/18/98	12/11/97	Cable & Wireless Internet Services, Inc.
LabExpert: version 2.1	TX-4-739-122	2/18/98	8/19/97	Cable & Wireless Internet Services, Inc.
LabExpert: version 2.0	TX-4-739-123	2/18/98	6/10/97	Cable & Wireless Internet Services, Inc.
ImageBlaster: version 2.2	TX-4-739-143	2/18/98	12/11/97	Cable & Wireless Internet Services, Inc.
ImageBlaster: version 2.0	TX-4-739-148	2/18/98	6/10/97	Cable & Wireless Internet Services, Inc.
ImageBlaster: version 2.1	TX-4-739-149	2/18/98	8/19/97	Cable & Wireless Internet Services, Inc.
SIDGen	TX-4-739-150	2/18/98	12/11/97	Cable & Wireless Internet Services, Inc.
IMGMASTR.C/author, Kevin J.	TX-4-760-166	2/18/98	2/26/97	Cable & Wireless Internet Services, Inc.
TurboFlow: turbulent-flow	TX-4-290-918	5/10/96	4/1/96	Cable & Wireless Internet Services, Inc.
Information services platform	TXu-553-512	2/2/93		Cable & Wireless USA, Inc.
Information services platform	TXu-678-079	9/11/95		Cable & Wireless USA, Inc.
Information services platform	TXu-678-139	9/11/95		Cable & Wireless USA, Inc.
Conference calling	TX-3-438-711	12/15/92	8/1/92	Cable & Wireless USA, Inc
Travel WATS	TX-3-438-710	12/15/92	1/1/90	Cable & Wireless USA, Inc
SureFax	TX-3-438-709	12/15/92	3/1/91	Cable & Wireless USA, Inc
Global priority calling plan: rate schedule	TX-3-438-708	12/15/92	8/1/92	Cable & Wireless USA, Inc

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SCHEDULE F

DOMAIN NAMES

digisle.com	com	6/14/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
digisle.net	net	6/14/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
digisle.org	org	6/6/2010	Cable & Wireless Internet Services, Inc.	Network Solutions
digitalisland.com	com	11/2/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
digitalisland.info	info	10/12/2006	Cable & Wireless Internet Services, Inc.	Network Solutions
digitalisland.net	net	6/7/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
digitalisland.us	us	4/18/2007	Cable & Wireless Internet Services, Inc.	Official US Domains
exodus.com	com	12/14/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
exodus.info	info	8/8/2006	Cable & Wireless Internet Services, Inc.	Register.com
exodus.net	net	12/14/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
exodus.us	us	4/18/2007	Cable & Wireless Internet Services, Inc.	Official US Domains
exodus-com.com	com	3/8/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
exodusom.net	net	3/08/04	Cable & Wireless Internet Services, Inc.	Network Solutions
exoduscommunications.biz	biz	1/2/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
exoduscommunications.com	com	1/3/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
exoduscommunications.net	net	3/8/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
exoduscommunications.us	us	4/18/2007	Cable & Wireless Internet Services, Inc.	Official US Domains
footprint.info	info	10/12/2006	Cable & Wireless Internet Services, Inc.	Network Solutions
footprint.net	net	7/7/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
footprintinteractive.com	com	5/17/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
footprintinteractive.net	net	5/17/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
fplive.net	net	11/30/2007	Cable & Wireless Internet Services, Inc.	Network Solutions
fpondemand.net	net	8/22/2006	Cable & Wireless Internet Services, Inc.	Network Solutions
global.net	net	12/19/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
myexds.com	com	4/19/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
myexodus.com	com	9/28/2006	Cable & Wireless Internet Services, Inc.	Network Solutions
myexodus.net	net	9/28/2006	Cable & Wireless Internet Services, Inc.	Network Solutions

netsearch.com	.com	11/17/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
sandpiper.biz	.biz	3/26/2004	Cable & Wireless Internet Services, Inc.	Network Solutions
sandpiper.info	.info	10/12/2006	Cable & Wireless Internet Services, Inc.	Network Solutions
sandpiper.net	.net	7/12/2009	Cable & Wireless Internet Services, Inc.	Network Solutions
sslcdn.com	.com	7/27/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
sslcdn.net	.net	7/27/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
sslcdn.org	.org	7/27/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
truesware.com	.com	4/16/2005	Cable & Wireless Internet Services, Inc.	Network Solutions
truesware.net	.net	7/31/2008	Cable & Wireless Internet Services, Inc.	Network Solutions

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	31	("domain name server" or DNS) and ("policy-based" or "policy based") and policy and address and hostname	US-PGPUB; USPAT	OR	OFF	2006/04/03 11:52
S2	31	("domain name server" or DNS) and ("policy-based" or "policy based") and address and hostname	US-PGPUB; USPAT	OR	OFF	2006/04/03 11:53
S3	1	("domain name server" or DNS) and ("policy-based" or "policy based") and "adaptive traffic control"	US-PGPUB; USPAT	OR	OFF	2006/04/03 11:54
S4	8	"adaptive traffic control"	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:03
S5	0	("2003/0065762").URPN.	USPAT	OR	OFF	2006/04/03 12:01
S6	114	(domain same service) same policy	USPAT	OR	OFF	2006/04/03 12:06
S7	1	("20030065762").PN.	US-PGPUB; USPAT	OR	OFF	2006/04/03 12:06
S9	19485	"adaptive traffic control" or ATC or (adaptive near traffic near control)	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:05
S10	19485	"adaptive traffic control" or "ATC" or ("adaptive" near "traffic" near "control")	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:06
S11	19477	"adaptive traffic control" or ATC	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:06
S12	16	"adaptive traffic control" or ("adaptive" near "traffic" near "control")	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:06
S13	0	("2003/0065762").URPN.	USPAT	OR	OFF	2006/04/17 14:47
S14	1	(traffice and control and (manage or management)) and (subscriber or subscribe) and network and server and domain and (policy or policie)	USPAT	OR	OFF	2006/04/17 14:48
S15	1	(traffice and control and (manage or management)) and (subscriber or subscribe) and network and server and domain and (policy or policie)	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:49
S16	9	(traffice and control and (manage or management)) and (subscriber or subscribe) and network and server	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:58

EAST Search History

S17	185	network and (subscribe or subscriber) and policy and "domain name server" and address	US-PGPUB; USPAT	OR	OFF	2006/04/17 14:59
S18	17	network and (subscribe or subscriber) and policy and "domain name server" and address and hostname	US-PGPUB; USPAT	OR	OFF	2006/04/18 16:04
S19	1	("20030046421").PN.	US-PGPUB; USPAT	OR	OFF	2006/04/18 16:11
S20	1	"20030046421".pn. and time	US-PGPUB; USPAT	OR	OFF	2006/04/18 16:11
S21	1	("6986534").PN.	US-PGPUB; USPAT	OR	OFF	2006/04/25 12:03

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/259,497	09/30/2002	Paul E. Stolorz	P 0283641 ATC	5284

42624 7590 04/26/2006

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
WALSH, JOHN B	

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 04/26/2006

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

Office Action Summary	Application No.	Applicant(s)	
	10/259,497	STOLORZ ET AL.	
	Examiner	Art Unit	
	John B. Walsh	2151	

-- 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 _____.

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) *1-80* is/are pending in the application.

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

5)☒ Claim(s) *39-41* is/are allowed.

6)☒ Claim(s) *1-23,29-38,42-60 and 63-78* is/are rejected.

7)☒ Claim(s) *24-28,61,62,79 and 80* 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-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/23/2004*.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. 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.

2. Claims 1-23, 29-38, 42-60 and 63-78 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,976,090 to Ben-Shaul et al.

As concerns claim 1, a framework for delivery of Internet content comprising: a subscriber server network (figure 3); and at least one domain name server (column 2, line 5) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server attempts to resolve the hostname to at least one address corresponding a server in the subscriber server network based on at least one policy consideration (column 5, lines 20-25, column 52, lines 9-34).

As concerns claim 2, a framework as in claim 1 further comprising: a content delivery network (figure 3), distinct from the subscriber server network, wherein, in response to a request to resolve a hostname, the domain name server provides at least one addresses (column 5, lines 20-25) of a server in the content delivery network based at least on a location of the requestor and other policy considerations (column 6, line 57, column 7, lines 31-32).

As concerns claims 3 and 9, wherein an address provided by the domain name server is selected based on one or more of: (a) geographic policies; (b) load share policies; (c) overflow policies; and (d) network aware policies (column 6, line 57, column 7).

As concerns claims 4 and 47, wherein the at least one policy consideration includes at least one of: a geopolitical policy governing the selection of a server in the subscriber server network according to a geographical location of a requesting client (column 5, lines 20-25); a load share policy governing the selection of a primary server from a server according to dynamic load information associated with the servers in the subscriber server network (column 6, line 57, column 7); a shedding policy governing a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network; a partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function; a failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as one of a monitored server and a managed server.

As concerns claim 5, a domain name server for providing domain name service comprising: a location determiner (column 5, lines 20-25, need to know location in order to refer to a local server) for determining a location of a requester; an adaptive traffic control mechanism (column 5, lines 20-25, column 52, lines 9-34) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server attempts to provide at least one addresses of a server in a subscriber server

network based on one or more of: (a) geographic policies; (b) load share policies; (c) overflow policies; and (d) network aware policies (column 6, line 57, column 7).

As concerns claims 6 and 57, a method of providing domain name service comprising: receiving from a resolver a request to resolve a hostname (column 5, lines 20-25; column 52, lines 9-34); determining a location of the requesting resolver (column 5, lines 20-25, need to know location in order to refer to a local server); determining an address based on the determined location and on other dynamic policy considerations (column 5, lines 20-25, need to know location in order to refer to a local server); and providing the address to the requesting resolver (column 7, lines 1-14).

As concerns claim 7, a method as in claim 6 wherein the address is determined based on one or more of: (a) geographic policies; (b) load share policies; (c) load shed policies; and (d) network aware policies (column 6, line 57, column 7).

As concerns claim 8, a framework for delivery of Internet content comprising: a server network (figure 3) associated with a subscriber that provides Internet content; and an adaptive traffic control (ATC) name server network having at least one domain name server (figure 3; column 2, line 5) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC name server network resolves the hostname to at least one address corresponding a server in the subscriber server network based at least one policy consideration (column 5, lines 20-25; column 52, lines 9-34; column 5, lines 4-6).

As concerns claim 10, a framework for adaptive traffic control comprising: a server network (figure 3); and an adaptive traffic control (ATC) name server network having at least

one domain name server (figure 3, column 2, line 5) constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester (column 6, line 57, column 7, lines 31-32, column 5, lines 20-25).

As concerns claim 11, a framework as in claim 10 wherein the answer comprises: an Internet protocol (IP) address or a CNAME corresponding to a server in the server network (column 7, lines 1-15, column 2, table 1).

As concerns claims 12, 30 and 64, wherein the server network includes at least one of: a subscriber server network; and a content delivery network (figure 3).

As concerns claims 13, 30 and 44, wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy (figure 3, column 11, lines 17-34, lines 47-48).

As concerns claims 14, 31, 45 and 66, wherein the server hierarchy includes at least one of: a first tier comprising at least one primary server; a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function (column 11, lines 17-34, column 7, lines 54-65, column 8, lines 60-65, column 10, line 38).

As concerns claims 15, 46, 58 and 67, wherein each server in the server network is at least one of: a monitored server, wherein the availability of the monitored server is dynamically

monitored (column 10, line 63-column 11, line 13); and a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

As concerns claim 16, the framework according to claim 15, wherein each domain name server in the ATC domain name server network comprises: a location determiner constructed and adapted to determine a geographic location of a requesting client (column 5, lines 20-25, need to know location in order to refer to a local server); an adaptive traffic control (ATC) mechanism capable of facilitating the policy-based domain name service (column 6, lines 19-25).

As concerns claims 17, 32 and 68, wherein the at least one policy includes at least one of: a geo-political policy governing the selection of a server group in the server network according to a geographical location of the client (column 5, lines 20-25); a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group (column 6, line 57, column 7); a shedding policy governing how the load of a server in a server group is to be shed to other servers; a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function; a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as at least one of a monitored server and a managed server; regulatory policy.

As concerns claims 18, 34 and 48, wherein the geo-political policy includes at least one of: a continent-based policy; a country-based policy; a region-based policy; and a time-zone based policy (column 1, lines 41-50; column 7, lines 46-48).

As concerns claims 19, 35 and 49, further comprising a regulatory policy (column 10, lines 46-53; column 8, line 10).

As concerns claim 20, the framework according to claim 16, wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server (column 10, line 63-column 11, line 13).

As concerns claim 21, the framework according to claim 20, wherein the monitoring agent is further constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers (column 10, lines 38-45; column 6, line 57).

As concerns claims 22 and 59, wherein the monitoring agent is further capable of polling dynamic load share and load shed information from one or more managed servers so that the domain name server can determine a server according to the dynamic load share and load shed information associated with the managed servers (column 10, lines 38-45; column 6, line 57).

As concerns claims 23 and 60, further comprising an adaptive traffic control (ATC) administrative framework capable of administering the operations of the ATC name server network and the status of the server network (figures 3-5, 7-9; column 5, lines 20-25).

As concerns claim 29, a domain name server (column 2, line 5) for resolving a hostname, comprising: a location determiner capable of determining a geographic location of a client from

which a request to resolve a hostname is received (column 6, line 57; column 7, lines 31-32; column 5, lines 20-25); an adaptive traffic control (ATC) mechanism capable of supporting policy-based domain name service, wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network based at least on the location as ascertained by the location determiner and at least one policy (column 7, lines 1-15; column 2, table 1).

As concerns claim 33, the domain name server according to claim 32, wherein a monitored server corresponds to a server where the availability of the monitored server is dynamically monitored; and a managed server corresponds to a server where either the availability of the managed server is dynamically monitored or the load share and load shed is dynamically defined (column 10, lines 38-45; column 6, line 57 column 10, lines 38-45; column 6, line 57).

As concerns claim 36, the domain name server according to claim 29, further comprising a monitoring agent (column 10, line 63-column 11, line 13) capable of observing events occurred during the operation of the domain name server and sending such events to an adaptive traffic control (ATC) network monitoring mechanism of an adaptive traffic control (ATC) administrative framework.

As concerns claim 37, the domain name server according to claim 36, wherein the monitoring agent is further capable of monitoring the availability of one or more servers in the server network that are designated as either a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers (column 10, lines 38-45; column 6, line 57).

As concerns claim 38, the domain name server according to claim 37, wherein the monitoring agent is further capable of polling dynamic load share and load shed information from one or more managed servers so that the domain name server can determine the server according to the dynamic load share and load shed information (column 10, lines 38-45, column 6, line 57).

As concerns claim 42, a method for adaptive traffic control based domain name service, comprising: receiving, by a domain name server in an adaptive traffic control (ATC) domain name server network, a request from a resolver to resolve a hostname (column 5, lines 20-25, column 52, lines 9-34); determining an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy (); and causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network (column 7, lines 1-15, column 2, table 1).

As concerns claim 43, the method according to claim 42, wherein the server network includes at least one of: a subscriber server network providing content delivery service; and a content delivery network providing the content delivery service (figure 3; column 3, lines 5-10).

As concerns claims 50 and 69, wherein said determining the IP address comprises: determining the geographic location of the client (column 5, lines 20-25, need to know location in order to refer to a local server); retrieving one or more policies relevant to the geographic location of the client (column 5, lines 20-25, column 52, lines 9-34); identifying the server according to the retrieved one or more policies (column 7, lines 1-15, column 2, table 1); and

identifying the at least one of the IP address and the CNAME of the server (column 7, lines 1-15; column 2, table 1).

As concerns claims 51 and 70, further comprising establishing the at least one policy (column 5, lines 4-6, column 6, lines 54-60, column 7, lines 12-13).

As concerns claim 52, the method according to claim 51, wherein said establishing the at least one policy comprises at least one of: receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source; dynamically polling the at least one policy from one or more managed servers in the server network (column 6, line 19; column 10, lines 63-67).

As concerns claims 53 and 77, wherein the at least one source includes at least one of: the subscriber and a regulatory entity (client on PC –14; server; figures 3-5).

As concerns claim 54, the method according to claim 53, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claim 55, the method according to claim 54, further comprising: dynamically updating a policy based on a dynamic policy polled by said polling to generate an updated policy; and broadcasting the updated policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claim 56, the method according to claim 55, further comprising monitoring, by a monitoring mechanism in a domain name server, the operational status of the domain name server (column 10, lines 63-67).

As concerns claim 63, a method for resolving a hostname, comprising: receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname from a client via a resolver (table 2); determining a server in a server network based at least on the geographic location of the client and at least one policy (column 5, lines 20-25, need to know location in order to refer to a local server); and determining at least one of an IP address and a CNAME of the server based on the determined location at least one location based policy (column 7, lines 1-15, column 2, table 1).

As concerns claim 65, the method according to claim 64, wherein the subscriber server network includes at least one server group (figure 3, column 11, lines 17-34, lines 47-48).

As concerns claim 71, the method according to claim 70, wherein said establishing the at least one policy comprises at least one of: receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and dynamically polling one or more load share or load shed policies from one or more managed servers in the server network (column 6, line 57, column 7,column 10, lines 38-45, column 6, line 57); and updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

As concerns claim 72, the method according to claim 71, further comprising monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server (column 10, lines 63-67).

As concerns claim 73, the method according to claim 72, wherein said monitoring comprises: monitoring events that occur during the operations of the domain name server (column 10, lines 63-67); sending the events to an ATC network monitoring mechanism in the ATC administrative framework (column 10, line 63-column 11, line 13).

As concerns claim 74, the method according to claim 73, further comprising monitoring the availability of one or more servers that are designated as wither a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers (column 10, line 63-column 11, line 13).

As concerns claim 75, a method of an adaptive traffic control (ATC) administrative framework, comprising: maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname (column 5, lines 20-25, column 52, lines 9-34); monitoring the operational status of the ATC name server network (column 10, lines 63-67).

As concerns claim 76, the method according to claim 75, wherein said maintaining the at least one policy comprises: receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source (column 5, lines 20-25, column 52, lines 9-34); and

broadcasting the received at least one policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claim 78, the method according to claim 77, further comprising: polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network (column 6, line 57, column 7;column 10, lines 38-45, column 6, line 57); updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy (column 10, lines 63-67); and broadcasting the updated policy to one or more domain name servers in the ATC name server network (column 10, lines 63-67).

Allowable Subject Matter

3. Claims 24-28, 61, 62, 79 and 80 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.

4. Claims 39-41 are allowed.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The examiner can normally be reached on Monday-Wednesday from 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,.Zarni Maung can be reached on 571-272-3939. 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).

John B. Walsh
Primary Examiner
Art Unit 2151

Please type a plus sign (+) inside this box → [+]

PTO/SB/08A (08-00)
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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	10/259,497
Filing Date	September 30, 2002
First Named Inventor	Paul E. STOLORZ et al.
Group Art Unit	2156
Examiner Name	Unassigned
Attorney Docket Number	39685-0012

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JAN 23 2004
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RECEIVED
JAN 27 2004
Technology Center 2100

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
JW	A01	6,282,574	B1	Voit	8/28/2001	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
JW	A02	EP	0 817 444	A2	Sun Microsystems, Inc.	1/7/1998		
JW	A03	WIPO	00/52594	A2	ULTRADNS, INC.	9/8/2000		

Examiner Signature	John D. Wood	Date Considered	9/22/06

*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] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [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 hee if English language Translation is attached.

Notice of References Cited	Application/Control No. 10/259,497	Applicant(s)/Patent Under Reexamination STOLORZ ET AL.	
	Examiner John B. Walsh	Art Unit 2151	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,976,090	12-2005	Ben-Shaul et al.	709/246
*	B	US-2002/0016831	02-2002	Peled et al.	709/219
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	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
	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.

Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination	
10/259,497	STOLORZ ET AL.	
Examiner	**Art Unit**	
John B. Walsh	2151	

SEARCHED			
Class	Subclass	Date	Examiner

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
text search (see separate page)	4/25/2006	JW

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AUG 28 2006
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:

Inventor(s):	*Stolorz,* Paul E. ; et al.	**Group Art Unit:**	2151
Appl. Serial No.:	10/259,497	**Examiner:**	Walsh, John B.
Confirmation No.:	5284		
Filing Date:	09/30/2002	**Attorney Docket No.:**	2615-0054
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	**Date:**	August 28, 2006

RESPONSE

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

Sir:

This paper is being filed in response to the Official Action mailed April 4, 2006.

A **Petition for Extension of Time** along with the required fee is being filed herewith.

Amendments to the claims begin on page 2.

Remarks begin on page 29.

08/29/2006 SDENBOB1 00000089 501860 10259497
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PTO
AUG 28 2006
PATENT & TRADEMARK OFFICE

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A framework for delivery of Internet content comprising:

a subscriber server network; and

at least one domain name server constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server attempts to resolve the hostname to at least one address corresponding a server in the subscriber server network based on at least one policy consideration enforced by the domain name server.

2. (Orignal) A framework as in claim 1 further comprising:

a content delivery network, distinct from the subscriber server network, wherein, in response to a request to resolve a hostname, the domain name server provides at least one addresses of a server in the content delivery network based at least on a location of the requestor and other policy considerations.

3. (Original) A framework as in claim 1 wherein an address provided by the domain name server is selected based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) overflow policies; and

(d) network aware policies.

4. (Original) The framework according to claim 1, wherein the at least one policy consideration includes at least one of:

a geopolitical policy governing the selection of a server in the subscriber server network according to a geographical location of a requesting client;

a load share policy governing the selection of a primary server from a server according to dynamic load information associated with the servers in the subscriber server network;

a shedding policy governing a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network;

a partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function;

a failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as one of a monitored server and a managed server.

5. (Original) A domain name server for providing domain name service comprising:

a location determiner for determining a location of a requester;

an adaptive traffic control mechanism constructed and adapted to provide policy-based domain name service,

wherein, in response to a request to resolve a hostname, the domain name server attempts to provide at least one addresses of a server in a subscriber server network based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) overflow policies; and

(d) network aware policies.

6. (Currently Amended) A method of providing domain name service comprising, by a domain name server:

receiving ~~from a resolver~~ a request to resolve a hostname;

determining a location of the requesting resolver;

ascertaining at least one dynamic policy consideration;

determining an address based on the determined location and on other dynamic policy considerations; and

providing the address to the requesting resolver.

7. (Original) A method as in claim 6 wherein the address is determined based on one or more of:

(a) geographic policies;

(b) load share policies;

(c) load shed policies; and

(d) network aware policies.

8. (Currently Amended) A framework for delivery of Internet content comprising:

a server network associated with a subscriber that provides Internet content; and an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide policy-based domain name service,

wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC name server network resolves the hostname to at least one address corresponding a server in the subscriber server network based, at least in part, on at least one policy consideration.

9. (Original) A framework as in claim 8 wherein the policy considerations comprise one or more of:

(a) geographic policy considerations;

(b) load share policy considerations;

(c) overflow policy considerations; and

(d) network aware policy considerations.

10. (Original) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at

least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester.

11. (Original) A framework as in claim 10 wherein the answer comprises:

an Internet protocol (IP) address or a CNAME corresponding to a server in the server network.

12. (Original) The framework according to claim 10, wherein the server network includes

at least one of:

a subscriber server network; and

a content delivery network.

13. (Currently Amended) The framework according to claim ~~12~~ 10, wherein the server network includes a subscriber server network, and wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy.

14. (Original) The framework according to claim 13, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions

when both the at least one primary server and the one or more first level overflow server fail to function.

15. (Currently Amended) The framework according to claim 10 ~~14~~, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

16. (Currently Amended) The framework according to claim 10 ~~15~~, wherein each domain name server in the ATC domain name server network comprises:

a location determiner constructed and adapted to determine a geographic location of a requesting client;

an adaptive traffic control (ATC) mechanism capable of facilitating the policy-based domain name service.

17. (Currently Amended) The framework according to claim 10 ~~16~~, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to a geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

18. (Original) The framework according to claim 17, wherein the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

19. (Currently Amended) The framework according to claim ~~18~~ 10, further comprising a regulatory policy.

20. (Currently Amended) The framework according to claim 10 ~~16~~, wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server.

21. (Original) The framework according to claim 20, wherein the monitoring agent is further constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers.

22. (Currently Amended) The framework according to claim 20 ~~21~~, wherein the monitoring agent is ~~further capable of polling~~ constructed and adapted to poll dynamic load share and load shed information from one or more managed servers so that the domain name server can determine ~~a server~~ the answer according to the dynamic load share and load shed information associated with the managed servers.

23. (Currently Amended) The framework according to claim 10 ~~20~~, further comprising:

an adaptive traffic control (ATC) administrative framework constructed and adapted to administer ~~capable of administering the~~ operations of the ATC name server network and the status of the server network.

24. (Currently Amended) The framework according to claim 10 ~~23~~, further comprising an adaptive traffic control (ATC) administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

25. (Original) The framework according to claim 24, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of the ATC domain name server network through event information received from at least one monitoring agent of the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server in the ATC domain name server network; and

an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

26. (Original) The framework according to claim 25, wherein the at least one source includes at least one of:

the subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities defining policies that can be received or dynamically polled by the ATC policy management mechanism; and

one or more managed servers in the server network that provide dynamic load share and load shed policies that can be polled.

27. (Original) The framework according to claim 25, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents associated with different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the consolidated trapped event information; and

an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center.

28. (Original) The framework according to claim 27, wherein the alert generation mechanism is further capable of sending the alert to the subscriber.

29. (Currently Amended) A domain name server for resolving a hostname, comprising:

a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received;

an adaptive traffic control (ATC) mechanism capable of supporting dynamic policy-based domain name service,

wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network, the answer being based at least on the location as ascertained by the location determiner and at least one policy.

30. (Original) The domain name server according to claim 29, wherein the server network includes at least one of:

a subscriber server network comprising at least one server group; and

a content delivery network comprising at least one server.

31. (Currently Amended) The domain name server according to claim 29 ~~30~~, wherein the server network includes a subscriber server network comprising at least one server group, and

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow server fail to function.

32. (Original) The domain name server according to claim 29, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

33. (Currently Amended) The domain name server according to claim 29 ~~32~~, wherein, when the policy is a server designation policy defining a server in the server network as at least one of a monitored server and a managed server,

a monitored server corresponds to a server where the availability of the monitored server is dynamically monitored; and

a managed server corresponds to a server where either the availability of the managed server is dynamically monitored or the load share and load shed is dynamically defined.

34. (Currently Amended) The domain name server according to claim 29 ~~32~~, wherein, when the policy includes a geo-political policy, the geo-political ~~policies include~~ policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

35. (Currently Amended) The domain name server according to claim 29 ~~32~~, further comprising a regulatory policy.

36. (Currently Amended) The domain name server according to claim 29, further comprising a monitoring agent ~~capable of observing~~ constructed and adapted to observe events ~~occurred~~ occurring during the operation of the domain name server and ~~sending~~ to send such events to an adaptive traffic control (ATC) network monitoring mechanism of an adaptive traffic control (ATC) administrative framework.

37. (Currently Amended) The domain name server according to claim 36, wherein the monitoring agent is further ~~capable of monitoring~~ constructed and adapted to monitor the availability of one or more servers in the server network that are designated as either a monitored server or a managed server so that the domain name server can determine the answer ~~server~~ according to the availability of the one or more servers.

38. (Currently Amended) The domain name server according to claim 36 ~~37~~, wherein the monitoring agent is further constructed and adapted to poll ~~capable of polling~~ dynamic load share and load shed information from one or more managed servers so that the domain name server can determine the server according to the dynamic load share and load shed information.

39. (Original) An adaptive traffic control (ATC) administrative framework, comprising:

an administrative master agent (AMA);

at least one administrative master agent (AMA) backup; and

a network operation center, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of an adaptive traffic control (ATC) domain name server network comprising at least one domain name server through event information received from at least one monitoring agent located in the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server; and an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

40. (Original) The framework according to claim 39, wherein the at least one source includes at least one of:

a subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities capable of defining policies that can be dynamically polled by the ATC policy management mechanism; and one or more servers in a server network that are designated as managed servers.

41. (Original) The framework according to claim 40, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents located in different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the trapped event information; and an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center and the subscriber.

42. (Currently Amended) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) ~~domain~~ name server network, a request ~~from a resolver~~ to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network.

43. (Original) The method according to claim 42, wherein the server network includes at least one of:

a subscriber server network providing content delivery service; and

a content delivery network providing the content delivery service.

44. (Currently Amended) The method according to claim 42 ~~43~~, wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group.

45. (Original) The method according to claim 44, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

46. (Currently Amended) The method according to claim 42 ~~45~~, wherein each server in the server network can be designated as at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

47. (Currently Amended) The method according to claim 42 ~~46~~, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

48. (Currently Amended) The method according to claim 47, wherein, when the policy is a geo-political policy, the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

49. (Currently Amended) The method according to claim 42~~48~~, further comprising a regulatory policy.

50. (Currently Amended) The method according to claim 42 ~~49~~, wherein said determining the ~~IP address~~ answer comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client;

identifying the server according to the retrieved one or more policies; and

identifying the at least one of the IP address and the CNAME of the server.

51. (Currently Amended) The method according to claim 42 ~~50~~, further comprising establishing the at least one policy.

52. (Original) The method according to claim 51, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

53. (Original) The method according to claim 52, wherein the at least one source includes at least one of:

the subscriber; and

a regulatory entity.

54. (Currently Amended) The method according to claim 51 ~~53~~, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network.

55. (Currently Amended) The method according to claim 51 ~~54~~, further comprising:

dynamically updating a policy based on a dynamic policy ~~polled by said polling~~ to generate an updated policy; and

broadcasting the updated policy to the at least one domain name server in the ATC name server network.

56. (Currently Amended) The method according to claim 42 ~~55~~, further comprising monitoring, by a monitoring mechanism in a domain name server, ~~the~~ an operational status of the domain name server.

57. (Currently Amended) The method according to claim 56, wherein said monitoring comprises:

monitoring events that occur during ~~the operations~~ operation of the domain name server; and

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

58. (Currently Amended) The method according to claim ~~42~~ ~~57~~, further comprising monitoring, by ~~the~~ a monitoring mechanism, the availability of one or more servers that are designated as either a monitored server or a managed server ~~so that~~ whereby the domain name server can determine the ~~server~~ answer according to the availability of the one or more servers.

59. (Currently Amended) The method according to claim 42~~58~~, further comprising polling, by ~~the~~ a monitoring mechanism, dynamic load share or load shed information from one or more managed servers in the server network ~~so that~~ whereby the domain name server can determine the ~~server~~ answer according to the dynamic load share and load shed information.

60. (Currently Amended) The method according to claim 42 ~~59~~, further comprising administering, by ~~the~~ an ATC administrative framework, ~~the~~ an operational status of the ATC name server network.

61. (Original) The method according to claim 60, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and processing the consolidated events.

62. (Original) The method according to claim 61, further comprising:

generating an alert based on results from said processing; and

sending the alert to an network operation center of the ATC administrative network and the subscriber.

63. (Currently Amended) A method for resolving a hostname, comprising, by a domain name server in an adaptive traffic control (ATC) name server network:

receiving ~~by a domain name server in an adaptive traffic control (ATC) name server network,~~ a request to resolve a hostname ~~from a client via a resolver~~;

ascertaining at least one policy; and then

determining a server in a server network based at least on the geographic location of the client and said at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one ~~location based~~ location-based policy.

64. (Original) The method according to claim 63, wherein the server network includes at least one of:

a subscriber server network; and

a content delivery network.

65. (Currently Amended) The method according to claim 63 ~~64~~, wherein the server network includes a subscriber server network, and wherein the subscriber server network includes at least one server group.

66. (Original) The method according to claim 65, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

67. (Currently Amended) The method according to claim 63 ~~66~~, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

68. (Original) The method according to claim 67, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function;

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server; and a regulatory policy.

69. (Currently Amended) The method according to claim 63 ~~68~~, wherein said determining the server comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client; and

determining the server according to the retrieved one or more policies.

70. (Currently Amended) The method according to claim 63 ~~69~~, further comprising dynamically establishing the at least one policy.

71. (Original) The method according to claim 70, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

72. (Currently Amended) The method according to claim 63 ~~71~~, further comprising

monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server.

73. (Currently Amended) The method according to claim 72, wherein said monitoring comprises:

monitoring events that occur during ~~the operations~~ operation of the domain name server;

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

74. (Currently Amended) The method according to claim 73, further comprising

monitoring the availability of one or more servers that are designated as either ~~wither~~ a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

75. (Original) A method of an adaptive traffic control (ATC) administrative framework, comprising:

maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname;

monitoring the operational status of the ATC name server network.

76. (Original) The method according to claim 75, wherein said maintaining the at least one policy comprises:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source; and

broadcasting the received at least one policy to the at least one domain name server in the ATC name server network.

77. (Original) The method according to claim 76, wherein the at least one source includes at least one of:

a subscriber; and

a regulatory entity.

78. (Currently Amended) The method according to claim 75 ~~77~~, further comprising:

polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network;

updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy; and

broadcasting the updated policy to one or more domain name servers in the ATC name server network.

79. (Currently Amended) The method according to claim 75 ~~78~~, wherein said monitoring comprises:

receiving, by an ATC network monitoring mechanism in the ATC administrative framework, events sent from at least one monitoring mechanism of the at least one domain name server;

consolidating the events to form consolidated events; and processing the consolidated events.

80. (Original) The method according to claim 79, further comprising:

generating an alert based on results from said processing; and sending the alert to an network operation center of the ATC administrative framework and the subscriber.

REMARKS

Reconsideration and allowance of this application are respectfully requested.

By this Amendment, claims 1, 6, 8, 13, 15-17, 19, 20, 22-24, 29, 31, 33-38, 42, 44, 46-51, 54-60, 63, 65, 67, 69, 70, 72-74, 78 and 79 have been amended.

No new matter has been added by any amendments.

Claims 1-80 are pending in this application.

The Examiner indicated that claims 39-41 are allowed.

The Examiner objected to claims 24-28, 61, 62, 79 and 80 as being dependent upon a rejected base claim, and indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THE INVENTION

In some aspects, the presently claimed invention relates to network traffic management. Other aspects of the presently claimed invention relate to configurable, adaptive, global traffic control and management in networks such as the Internet.

In the presently pending claims, the network traffic management is carried out using ***policy-based domain name service.***

Claims 1-4, for example, recite a framework which includes ***policy-based domain name service***. As recited, e.g., in claim 1, the framework for delivery of Internet content includes a subscriber server network; and at least one domain name server. **The domain name server provides policy-based domain name service.** Specifically, as claimed in claims 1-4, in response to a request to resolve a hostname, the domain name server attempts to resolve the hostname based on at least one policy consideration.

As stated in the application,

> [w]hen the client's browser 114 obtains a request . . ., the browser queries its resolver 116 for an address for the hostname specified in the requested URL. The resolver 116 eventually queries a particular name server . . . [which] returns (provides or attempts to provide) the IP (Internet Protocol) address (or addresses) of a server (or servers) in the subscriber server network. ***The determination of the particular IP address returned to the resolver 116 may be based on a number of factors, including . . . various policies*** (e.g., subscriber policies 120, other policies 122) in a policy database 124.

Specification at ¶0047, emphasis provided.

The application further describes various policies that may be implemented in the domain name system (DNS), for example:

> . . . policies (200) may be classified into different types such as geo-political policies 215, load share policies 240, failover policies 245, tiered failover policies 250, shedding policies 255, regulatory policies 260, and Classless Inter-Domain Routing (CIDR) block policies 210.

Specification at ¶0060. Various kinds of policies are described in detail, e.g., a ¶¶0062-0068.

A recited in claim 2, the framework includes a content delivery network (CDN), distinct from the subscriber server network. In the framework of claim 2, in response to a request to resolve a hostname, ***the domain name server provides at least one addresses*** of a server in the CDN ***based*** at least ***on*** a location of the requestor and other ***policy considerations***.

As recited in claim 3, an address provided by the domain name server is selected based on one or more of: (a) geographic policies; (b) load share policies; (c) overflow policies; and (d) network aware policies.

Exemplary geographic policies are discussed in the Application at ¶0062.

> Geographic Policy (215): Decisions are based on location of the end-user or an approximate thereof, e.g., using the IP

> address of an end-user's resolver. For example, if the IP address is within the U.S., the request may be directed to a "domestic" group of servers in the subscriber server network 104, otherwise it may be directed to "international" servers in the network. The request may be directed to a proprietary Content Delivery Network (CDN) or to another service specified by the subscriber.

Exemplary load share policies are discussed in the Application at ¶0063.

> Load Share Policy (240): The subscriber can explicitly specify the amount of traffic (load share) to be directed to each of their servers within a defined server set in the subscriber server network 104. Typically the load may be specified according to the capacity of each server. Based on such specification, the load share of each server may be derived as a percentage of the total load.

Overflow policies allow the system to "direct traffic to pre-defined services when primary servers are not available." *Specification* at ¶0031.

As recited in **claim 4**, the policy consideration includes at least one of: "a geopolitical policy governing the selection of a server in the subscriber server network according to a geographical location of a requesting client; a load share policy governing the selection of a primary server from a server according to dynamic load information associated with the servers in the subscriber server network; a shedding policy governing a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network; a partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function; a failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as one of a monitored server and a managed server."

Claim 5 recites a policy-based domain name server.

Independent claim 5 recites a domain name server for providing domain name service. **The DNS server includes** a location determiner for determining a location of a requester; and **an adaptive traffic control mechanism *to provide policy-based domain name service***. In response to a request to resolve a hostname, the domain name server attempts to provide at least one addresses of a server in a subscriber server network **based on one or more of: (a) geographic policies; (b) load share policies; (c) overflow policies; and (d) network aware policies.**

Claim 6 recites a method of **providing domain name service using** a user's location and on "other **dynamic policy considerations**." **Claim 7** depends on claim 6 and recites that the address is determined **based on "one or more of: (a) geographic policies; (b) load share policies; (c) load shed policies; and (d) network aware policies."**

Claims 8-9 recite a framework for delivery of Internet content that includes an adaptive traffic control (ATC) name server network having at least one **domain name server constructed and adapted to provide policy-based domain name service**. In response to a request to resolve a hostname, at least one domain name server in the ATC name server network resolves the hostname to at least one address corresponding a server in the subscriber server network ***based, at least in part, on at least one policy consideration***.

Claim 10 (and therefore its dependents, **claims 11-28**) recites a framework for adaptive traffic control that **includes** an adaptive traffic control (ATC) name server network having **at least one domain name server constructed and adapted to provide adaptive policy-based domain name service**, wherein, in response to a request to resolve a hostname, **at least one domain name server** in the ATC domain name server network **provides an answer based on a policy** and on a location of the requester.

Claim 29 (and therefore its dependents, **claims 30-38**) recites a domain name server that includes a location determiner and an adaptive traffic control (ATC) mechanism capable of supporting ***policy-based domain name service***. As recited in claim 29, in response to the request from the client, **the domain name server provides an answer based at least on** the location as ascertained by the location determiner and **at least one policy.**

Claim 42 (and therefore its dependents, **claims 43-62**[1]) recites a method for ***adaptive*** traffic control based domain name service in which **a domain name server** in an adaptive traffic control (ATC) domain name server network **resolves a name** to a server in a server network ***based at least on the geographic location of the client and at least one policy***.

Claim 63 (and therefore its dependents, **claims 64-74**) recites a method for resolving a hostname. The method includes **resolving** to a server in a server network ***based at least on the geographic location of the client and at least one policy***.

Claim 75 (and therefore its dependents, **claims 76-80**[2]) recites a method of an ***adaptive*** traffic control (ATC) administrative framework. The method includes ***maintaining at least one policy used by at least one domain name server*** in an adaptive traffic control (ATC) name server network ***to determine the IP address of a server*** in a server network ***in response to a request from a client to resolve a hostname***. The method further includes monitoring the operational status of the ATC name server network.

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[1] The Examiner objected to claims 61 and 62, but indicated that they would be allowable if rewritten to include all of the limitations of the base and intervening claims.

[2] The Examiner objected to claims 79 and 80, but indicated that they would be allowable if rewritten to include all of the limitations of the base and intervening claims.

THE PRIOR ART REJECTIONS

The Examiner rejected claims 1-23, 29-38, 42-60 and 63-78 under 35 USC §102(e) as being anticipated by Ben-Shaul. The grounds for this rejection are respectfully traversed.

BEN-SHAUL DOES NOT IMPLEMENT POLICY-BASED DNS RESOLUTION.

Ben-Shaul does not teach or in any way suggest *policy-based name resolution*, let alone any type of dynamic policy-based name resolution implemented in a domain name server. Ben-Shaul uses a modified markup language (CDML), embedded in the HTML of web pages, in order to allow his so-called *edge servers* to make decisions about where and when content will be served. The DNS system in Ben-Shaul performs conventional name resolution.

Ben-Shaul's CDML is in his web pages, and, as is well known, the DNS system does not see web pages. Conventional DNS is used as follows: Users' browsers process HTML in order to render the underlying objects. When a browser finds a URL in a web page, it first tries to ascertain the network address of the object referred to by the URL. The address in a URL may be in the form of a so-called "hostname," (e.g., www.uspto.gov). To do this, the browser uses a resolver. The resolver may already know a network (IP) address for that hostname (based, e.g., on a previous name resolution). If the resolver does not already know the name, it sends the name – not the HTML and not the CDML – to a DNS server to try to get an address.

Since Ben-Shaul's policies are written in CDML which is embedded in the HTML, his DNS servers do not and cannot implement any type of policy-based DNS resolution. By the time Ben-Shaul's DNS servers see a hostname (whose IP address is required), the policy decision has already been made.

Note that Ben-Shaul's "edge server policy" controls "which resources zones are directed to the edge servers." *Id.* at col. 7, lines 21-23. However, the edge server policies do not control domain name resolution. For example, Ben-

Shaul's so-called "[c]ontent based differentiation . . . allows one to specify different priority to different content. This may affect the priority on the cache in terms of replacement scheme, the frequency of invalidation and mirroring policy." *Id.* at col. 7, lines 28-36. "Regional and group differentiation . . . allows one to differentiate delivery based on the location or *the organization membership of the edge server*. Thus, the same resource may have different priorities in different edge servers, permitting optimized use of resources. Or, the same URL may be translated to different physical resources, *depending on the region or organization in which the request is made*. Or, a certain resource may be visible, in whole or in part, to only some organizations, but not to others." *Id.* at col. 7, lines 28-36, emphasis provided.

According to Ben-Shaul's so-called "[t]emporal differentiation . . . [c]ontent may be prioritized based on time to address different access patterns during the day, or during holidays and other special days." *Id.* at col. 7, lines 47-49. And, according to Ben-Shaul's so-called customer-based differentiation, [t]he identity, preference, and group membership of the customer may impact the definition of both the delivery and the content." *Id.* at col. 7, lines 50-53.

Ben-Shaul's various differentiation policies are implemented in the origin servers (and, to some extent, in the edge servers), not in the DNS. As Ben-Shaul clearly states:

> **the policy control server is the origin web server itself.**

Ben-Shaul at col. 11, lines 35-36, emphasis provided. See also,

> . . . the policy control server includes a plurality of web servers. The web servers can be the origin web server, the edge server or a server located at a third party site.

Ben-Shaul at col. 11, lines 61-64.

> . . . the policy control server resides in an origin server that corresponds to the name in the external domain name zone.

Ben-Shaul at col. 17, lines 4-6.

Ben-Shaul's policies are static and are determined at the time each web page is created. Ben-Shaul provides "policy information" within web pages by means of a special markup language – CDML. "Each edge server implements the policy that is specified by the content provider and other sources of control. Thus, the content provider may control the operation of its edge servers, although a specific policy can delegate some or all the control to the edge servers, to a local policy derived at the target site, or in other cases to a different (third party) source of control. The behavior and evolution of edge servers, directed from the origin site, locally or from a third party location, is specified in a new content delivery markup language (CDML)" *Id.* at col. 6, lines 23-34. See also,

> An important characteristic of differentiated content and application delivery policy is its adaptability. Policies for a given content may change dynamically, and can be immediately applied. The differentiated content and application delivery model provides an evolution path for future functions. Since CDML can be extended, the edge server includes the functionality of a full fledged web server and the content platform is controlled by the content provider remotely. CDML extensions to provide new or modified functions as well as the software updates which are required to provide these new functions are automatically downloaded by the edge server from the origin site or any other site equipped with that capabilities.

Ben-Shaul at col. 11, lines 1-14.

Again, policy decisions are not being made by the DNS servers.

Ben-Shaul describes his DNS servers and their operation in great detail at col. 50, line 23 to col. 59, line 11. Nowhere does Ben-Shaul teach or in any way suggest that the DNS servers implement policy-based name resolution.

In the *Background* section, Ben-Shaul describes then-prior systems of operating content delivery networks (CDNs). *Ben-Shaul*, col.1, lines 23 *et seq.* In

particular, *Ben-Shaul describes the **conventional** use of domain name system (DNS) servers*. Referring to the prior art, Ben-Shaul notes the reliance on DNS to select a server.

> . . . the model . . . relies on a constellation of DNS servers: the client regional DNS server 22, the root DNS server 24, the authoritative DNS server 26, and the DNS mapping server 28. The latter is an enhanced DNS system that is responsible to return an IP address of the server of the CDD provider 12, which is located in the proximity of the client for each DNS resolution request in the zone www.cdd.com, originating from a regional DNS server.

Ben-Shaul at col. 2, lines 4-12.

Ben-Shaul describes using a requesting user's location for name resolution. In this, Ben-Shaul is using DNS (e.g., as used by Digital Island, *see* col. 1, line 40) to try to figure out where the user is so that the user can be sent to the "nearest" edge server. What Ben-Shaul further describes is the use of regional DNS systems. The DNS system is hierarchical, and, as is well known, DNS name resolution may take place recursively, using a number of name servers. Using the user's location, Ben-Shaul directs the user to a regional DNS server for the user's region. Essentially what Ben-Shaul describes is nothing more than a hierarchical DNS system, where higher level DNS servers forward requests to local DNS servers which are authoritative for particular zones.

Ben-Shaul has modified conventional DNS "to allow local cache replacements," which his edge servers rely on in order to implement their redirection requests. *Ben-Shaul*, col. 50, lines 24-32. As Ben-Shaul notes, with respect to his DNS name servers:

> The inventive system requires a change in the conventional DNS model. . . ., the DNS system is required to supply different responses to a given request or query, ***depending on the location of the query, and the status of the edge server in the zone from which the request was made***. This capability is realized in the preferred embodiments by effecting a change in the DNS system,

> such that ***local dynamic changes can be made in the database on behalf of the edge server***. While there are current DNS servers that differentiate among client queries, and issue different replies accordingly, these systems are not distributed, have scalability problems and require a complex mechanism to exist. In the invention local DNS servers are modified to allow *dynamic cache replacement* ***by edge servers.***

Ben-Shaul, col. 50, lines 53-63, emphasis provided.

Two points should be immediately apparent:

1. In Ben-Shaul, any and all policy decisions are made at the edge servers, not in the DNS servers. All that the DNS servers do is conventional name resolution using whatever name-to-address information is in their caches. If the edge servers want to effect some sort of change (e.g., to server from an origin server instead of an edge server), then the edge servers modify the appropriate DNS server's cache.

2. The only "decision" that Ben-Shaul's DNS servers make depends "***on the location of the query, and the status of the edge server in the zone from which the request was made***." *Ben-Shaul*, col. 50, lines 57-58, emphasis provided. These are not policy decisions. By the time Ben-Shaul's DNS servers see a hostname (whose IP address is required), any policy decision regarding resolution of that name has already been made by an edge server.

For at least these reasons, the claims are patentable over Ben-Shaul.

Claim 3 depends from claim 1 and is patentable over Ben-Shaul for the reasons stated above. However, further as to claim 3, Ben-Shaul fails to teach and the Examiner has failed to show any teaching of the claimed load share policies or the claimed overflow policies or the claimed network aware policies. These policies are not described anywhere in Ben-Shaul, let alone as implemented by or in a DNS server. Similar arguments apply to claims 9, 17.

Claims 4 and 47 depend from claims which, as shown above, are patentable over Ben-Shaul. However, further as to claims 4 and 47, applicant respectfully submits that Ben-Shaul lacks any teaching or suggestion of the types of policy considerations recited in the claims (the policy considerations could relate to **shedding, partial failover, failover, and/or server designation**).

As recited in some of the claims, a "shedding policy govern[s] a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network." A partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function. A failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function. A server designation policy defining a server in the server network as one of a monitored server and a managed server.

Ben-Shaul does not teach or in any way suggest any of these policy considerations – and the Examiner failed to indicate any portion of Ben-Shaul which he believed anticipated the present claims. In the Office Action, at page 3, in rejecting claims 4 and 47, the Examiner merely repeats the language of the claims, but fails to refer to any portion of Ben-Shaul to substantiate his rejection of claims reciting *shedding policies*, *partial failover or failover policies* or *server designation policies*.

Further, as to "load share" policies, the Examiner refers to a portion of Ben-Shaul that mentions *load balancing*. Load share policies are not the same as load balancing policies. For load balancing, a system tries to keep any particular server from being overloaded or from carrying more load than other servers. Load sharing is more sophisticated concept in which the servers can be configured to take different loads (e.g., by percentage or otherwise). For example, using load

share policies, the load on expensive resources can be kept lower than for other resources.

Ben-Shaul also lacks any teaching or suggestion of any kind of overflow policy.

As to the ***geopolitical*** policies, again these are neither taught nor suggested by Ben-Shaul. The Examiner refers to Ben-Shaul at col. 5, lines 20-25 (reproduced below) supposedly to support this claimed feature.

> It is another object of some aspects of the present invention to provide a flexible and fault tolerant DNS system that can direct the user requests for a content provider resource or resource class either to a local server that will serve the user locally or to the origin site according to the user location and the type of resource requested.

The cited portion of Ben-Shaul, reproduced below has nothing whatsoever to do with ***geopolitical*** policies.

While Ben-Shaul does make use of a requesting user's location in order to determine which server to select, the location is used in order to find a suitable (possibly optimal) edge server to serve the user. The user's location in Ben-Shaul is not used to implement any type of policy, let alone any type of geopolitical policy.

Similar arguments apply to claims 5, 9 [all claims that recite specific policies].

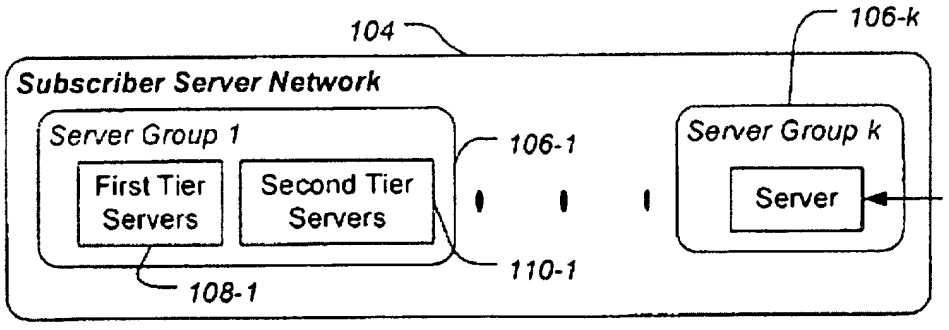
Claims 13 recites that the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a ***server hierarchy***. This feature is neither taught nor suggested by Ben-Shaul and appears to have been missed or ignored by the Examiner. (The fact that the Examiner included in the same rejection claims 13, 30 and 44 is indicative of the fact that he missed or ignored the word *hierarchy* – claims 30 and 44 do not use that word.)

The Examiner refers to Ben-Shaul, Fig. 3, supposedly to show a server hierarchy. Figure 3, however, shows no hierarchy in the subscriber server network. The only "subscriber" server shown in Fig. 3 (to the extent that one is shown at all) is the edge server 30, and the portion of Ben-Shaul relied upon by the Examiner, col. 11, lines 17-34 and 47-48, describe an edge server. Ben-Shaul does not describe or suggest any **hierarchy** of servers in a subscriber server network.

As taught in the present application, on the other hand,

> Each server group 106 may correspond to a server hierarchy which includes one or more tiers of servers. For example, the first tier of a server hierarchy may comprise one or more primary servers and the second tier of the server hierarchy may comprise possibly one or more overflow servers that are used when the primary servers in the first tier fail to function properly.

Specification at ¶0041. Figure 1 of the present application (reproduced in part below) shows, e.g., a subscriber server network 104 with various server groups 106-*j*. Server group 1 has first tier servers 108-1 and second tier servers 110-1.



An exemplary tiered network structure is also shown in Figure 4 of the application, reproduced here:

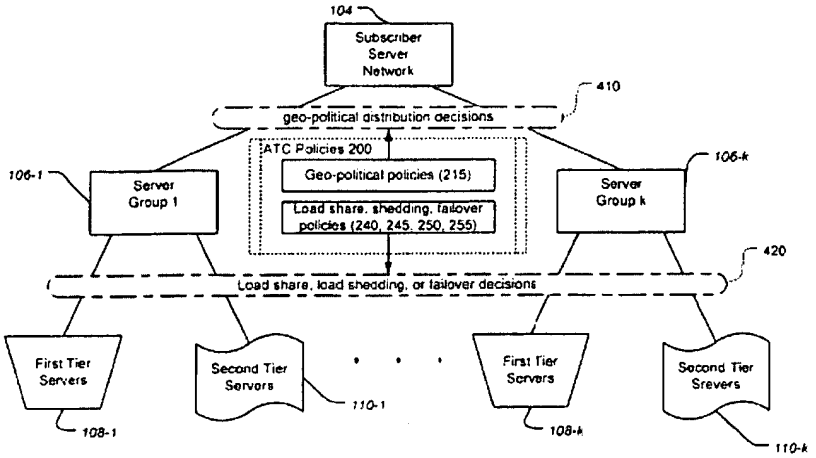


Fig. 4

For at least these reasons, claim 13 is further patentable over Ben-Shaul.

Claim 14 depends from claims which, as shown above, are patentable over Ben-Shaul. However, claim 14 is further patentable over Ben-Shaul for at least the following reasons.

Claim 13 depends from claim 13 which recites a hierarchy of servers in the subscriber server network. Claim 14 further recites:

> the server hierarchy includes at least one of: **a first tier** comprising at least one primary server; **a second tier** comprising **at least one first level overflow server** that functions when the at least one primary server in the first tier fails to function; and **a third tier** comprising at least one **second level overflow server** that functions when both the at least one primary server and the one or more first level overflow server fail to function.

There is nothing in Ben-Shaul to teach or in any way suggest the claimed three tiers of servers. Ben-Shaul has no tiers of servers. Further, there is nothing in Ben-Shaul to teach or in any way suggest the claimed second tier having a first level overflow server or the third tier having a second level overflow server. Ben-Shaul has no tiers and no concept of overflow servers.

Similar arguments apply to claims **31, 45 and 66.**

Claim 15 depends from claims which have been shown above to be patentable over Ben-Shaul. However, further as to claim 15, applicant respectfully submits that Ben-Shaul neither teaches nor in any way suggests the claimed framework "wherein each server in the server network is at least one of: a monitored server, wherein the availability of the monitored server is dynamically monitored; and a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically."

Here again, the Examiner has failed to refer to any portion of Ben-Shaul to support his rejection of a part of the claim – the managed servers. Ben-Shaul has no notion of monitored and managed servers. And Ben-Shaul has no notion of the concept of a **shed fraction**, as claimed, let alone a **dynamically defined shed fraction**.

For at least these reasons, claim 15 is further patentable over Ben-Shaul. Similar arguments apply to claims **46**, **58** and **67**. (Claims 46 and 67 recite that the "load shed of the managed server is dynamically defined").

Claim 19 depends from claims which have been shown above to be patentable over Ben-Shaul. However, further as to claim 19, applicant respectfully submits that Ben-Shaul neither teaches nor in any way suggests the claimed regulatory policy. The portions of Ben-Shaul relied upon by the Examiner have absolutely nothing to do with any regulatory policy, let alone with such a policy being enforced or implemented in a DNS server.

The first of the Examiner's citations relates to isolating an origin server to provide security.

> . . . Origin site protection and isolation. In some preferred embodiments the origin site can be fully isolated from users which are served exclusively from edge servers. This feature can provide exclusivity where only certain ISPs or B2B partners are allowed to access the origin site information or can provide security where all

> edge server access to the origin site are authenticated and possibly encrypted.

Ben-Shaul, col. 10, lines 46-53

The second of the Examiner's citations relates to quality of service. Quoted in context it states:

> 2. Quality of service. The priority or privileges of certain resources objects or contents at certain edge servers is based on their relative importance. Also certain clients can receive different priority or privileges for different content at certain edge server. The quality of service policy may affect storage allocation, processing priority or communication priority. In some preferred embodiments communication priority is regulated by the queuing-policy for reception of a request or transmission of a response. In other preferred embodiment of the invention, communication priority is assigned by applying network marking, e.g. term-of-service (TOS) bits at the IP header or lower level LAN priority) or by allocating such flows networking resources via signaling protocols, e.g. user-to-network interface (UNI) in asynchronous transfer mode (ATM) or reservation protocol (RSVP) in IP, or by other allocation means, such as IP DiffServe or multiprotocol label switching (MPLS).

Ben-Shaul, col. 8, lines 4-19.

The fact that the verb "regulated" is used does not in any way mean that a **regulatory policy** (as recited in the claim) is being implemented or taught or suggested. Ben-Shaul is merely saying that "communication priority is regulated by the queuing-policy for reception of a request or transmission of a response."

Similar arguments apply to **claims 35 and 49**.

Claim 20 depends from claims which, as shown above, are patentable over Ben-Shaul. However, further as to claim 20, applicant respectfully submits that there is nothing in Ben-Shaul to teach or in any way suggest the claimed framework "wherein ***the domain name server further comprises a monitoring agent*** capable of observing events that occur during the operation of the domain name server." Ben-Shaul does describe monitoring, but it is monitoring by and of

his edge servers, not by DNS servers. The portion of Ben-Shaul relied upon by the Examiner (and reproduced below) refers to such edge server monitoring.

> 15. Simple monitoring. Edge servers get updates on their policies by periodically polling the origin site for new policies. Using this behavior, the origin site provides basic "liveness" checking, telling at any point for each edge server when it last contacted the origin site.
>
> An important characteristic of differentiated content and application delivery policy is its adaptability. Policies for a given content may change dynamically, and can be immediately applied. The differentiated content and application delivery model provides an evolution path for future functions. Since CDML can be extended, the edge server includes the functionality of a full fledged web server and the content platform is controlled by the content provider remotely. CDML extensions to provide new or modified functions as well as the software updates which are required to provide these new functions are automatically downloaded by the edge server from the origin site or any other site equipped with that capabilities.

Ben-Shaul at col. 10, line 63 to col. 11, line 13.

Nowhere in this cited portion (or anywhere else in Ben-Shaul) does he indicate, teach or suggest that a DNS server performs any monitoring of anything, let alone "of events that occur during the operation of the domain name server," as claimed. The mere fact that the word "monitoring" is used in Ben-Shaul does not mean that he teaches or in any way suggests that the DNS servers performs any monitoring. In fact, Ben-Shaul specifically states that it is his edge servers that monitor.

Figure 6 of Ben-Shaul shows the content delivery (CD) Manager 44 which includes "Global Accounting & Monitoring" which "monitors the liveness and state of the edge servers by accepting periodically status messages from the edge servers accounting managers 68." *Ben-Shaul* at col. 25, lines 9-12. As noted in Ben-Shaul, the CD manager (which includes the monitoring functionality) is "associated with an origin web server 46, and optionally with a policy control server 42, although it does not have to reside in the same physical site as the origin

web server 46 or the policy control server 42." Ben-Shaul, col. 55-59. Ben-Shaul neither teaches nor in any way suggests that the content delivery manager is at or associated with a DNS server.

For at least these reasons, claim 20 is further patentable over Ben-Shaul. Similar arguments apply to claims **25** ("ATC network monitoring agent"), **36** ("domain name server . . . comprising a monitoring agent"), **56** ("monitoring, by a monitoring mechanism in a domain name server, the operational status of the domain name server"), **72** ("monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server"), **73, 74, 75, and 79.**

Claim 21 depends from claims which, as shown above, are patentable over Ben-Shaul. However, further as to claim 21, applicant respectfully submits that there is nothing in Ben-Shaul to teach or in any way suggest the claimed framework "wherein ***the domain name server further comprises a monitoring agent*** "constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers."

As noted above, with respect to claim 20, Ben-Shaul's DNS has no monitoring agent – to the extent that Ben-Shaul does any monitoring, it is by and of his edge servers.

For at least these reasons, claim 21 is further patentable over Ben-Shaul. Similar arguments apply to claims 22, 25, 27, 36, 37, and 38.

Claim 22 depends from claims which, as shown above, are patentable over Ben-Shaul. However, further as to claim 22, applicant respectfully submits that there is nothing in Ben-Shaul to teach or in any way suggest the claimed monitoring agent capable of "polling dynamic load share and load shed information from one or more managed servers so that the domain name server

can determine a server according to the dynamic load share and load shed information associated with the managed servers."

The cited portion of Ben-Shaul refers to origin servers and / or edge servers maintaining "a profile of servers [sic] load and network conditions by measuring rates and latencies experienced with a set of remote origin servers." Ben-Shaul, col. 10, lines 38-46. The only "polling" that takes place in Ben-Shaul is when an edge server polls an origin server. *Id.* at col. 10, line 64.

Ben-Shaul has no monitoring agent in the DNS servers, and Ben-Shaul has no teaching or suggestion of the concept of load sharing or of load shedding.

For at least these reasons, claim 22 is further patentable over Ben-Shaul. Similar arguments apply to claim **59**.

Claims 7, 21, 33, 38, 46, 48, 59, 67, 71, and **78** also refers to "load shed" – a concept completely absent from Ben-Shaul.

Claim 42 is patentable over Ben-Shaul for at least the reasons noted above. However, further as to **claim 42**, applicant notes that the Examiner did not cite to any part of Ben-Shaul to support rejection of the claimed "determining an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy." The Examiner's rejection (reproduced below), shows only empty parentheses.

column 52, lines 9-34); determining an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy (); and causing the

For at least these reasons, claim 42 is further patentable over Ben-Shaul.

Claim 44 recites that the subscriber server network includes at least one server group. The Examiner has not provided any support for his rejection of this claim, and Ben-Shaul is silent about the claimed server group. Similar arguments apply to claim **65**.

Claim 45 recites more detail about the server group, specifically: "each server group corresponds to a server hierarchy that includes at least one of: a first tier comprising at least one primary server; a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function."

Ben-Shaul has no teaching or suggestion of a server hierarchy or of tiers of servers, and Ben-Shaul has no notion of overflow servers. And the Examiner has provided no indication of anywhere in Ben-Shaul or in any other prior art where such a hierarchy or such servers are taught.

Claim **50** depends from claim 42 and is therefore patentable, as shown above. However, claim 50 is further patentable over Ben-Shaul. Claim 50 recites a method which includes **the domain name server**: "***retrieving*** one or more policies relevant to the geographic location of the client; identifying the server according to the retrieved one or more policies." As noted above, to the extent that Ben-Shaul has any policies, they are implemented in and carried out by his edge servers, not by his DNS servers. Ben-Shaul's edge servers may update the cache of edge DNS servers in order to effect redirection of requests. But none of Ben-Shaul's DNS servers retrieve any policies of any kind from anywhere, nor do any of them identify any server based on retrieved policies. Ben-Shaul's DNS servers simply resolve names to addresses based on whatever is in their caches (and other files).

For at least these reasons, claim 50 is further patentable over Ben-Shaul. Similar arguments apply to **claim 69**.

Claim 63 has been amended to clarify that the domain name server determines a server in the network based on location and policy and further, that

the domain name server ascertains the policy. As noted repeatedly above, Ben-Shaul's DNS simply resolves names based on what is in its cache. It knows of no policy and implements no policy.

Claim 70 depends on claim 63 and is therefore patentable for the reasons given above. Claim 70 is further patentable over Ben-Shaul. Claim 70 recites "dynamically establishing the at least one policy." Nothing in Ben-Shaul teaches or suggests dynamic policy establishment. All of Ben-Shaul's policies are written into the HTML of web pages. To change a policy in Ben-Shaul's system, one would have to rewrite the CDML in the HTML and re-publish the page. This is not dynamically establishing a policy.

Claim 71 depends on claim 70 (and indirectly on claim 63) and is therefore patentable for the reasons given above. However, claim 71 is further patentable over Ben-Shaul. Claim 71 recites that establishing the at least one policy comprises at least one of:

(A) receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

(B) dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

(C) updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

Ben-Shaul has no "adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework," and so does not and cannot perform that step.

Ben-Shaul does not have any notion of load shed policies and does not and cannot dynamically poll such policies.

Ben-Shaul does not teach or in any way suggest updating policies, as claimed.

The cited portions of Ben-Shaul (which the Examiner cites only for the "dynamically polling" part of the claim, refer to redirection policies using CDML in the HTML (col. 6, line 57 to col. 7, line 10), and to origin site load balancing (col. 10, lines 38-45). Nothing in the cited portion of Ben-Shaul or anywhere else teaches or suggests polling of any kind, let alone as claimed.

For at least these reasons, claim 71 is further patentable over Ben-Shaul.

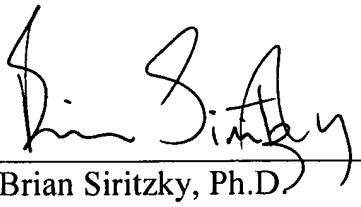
In view of the above, withdrawal of this rejection under §102 is respectfully requested.

CONCLUSION

Applicant respectfully submits that this application is in condition for allowance and an early action to that effect is earnestly solicited.

The undersigned has requested a personal interview with the Examiner in this case to help resolve any outstanding issues in this application. The Examiner is respectfully requested to telephone the undersigned at the number provided to arrange such an interview.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2615-0054**.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached.
This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

CUSTOMER NUMBER 42624	Respectfully submitted, By:  Brian Siritzky, Ph.D. Registration No.: 37,497

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:		Atty. Docket No.:	2615-0054
	Paul E. Stolorz et al.	Confirmation No.:	5284
Appln. No.:	10/259,497	Group Art Unit:	2151
Filed:	September 30, 2002	Examiner:	Walsh, John B.
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFFIC CONTROL AND MANAGEMENT	Date:	August 28, 2006

RESPONSE TRANSMITTAL COVER SHEET

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

Sir:

This is a reply/amendment/letter in the above-identified application and includes the attachments hereto. The signature below is treated as the signature to the attachments in the absence of a signature thereto.

FEE REQUIREMENTS

	Claims remaining after amendment		*Highest number previously Paid For*		*Present Extra*	*Rate: Large/Small Entity*	
1. *Total*	80	minus	80	*	= 0	X $50 / $ 25 =	$0
			* If this number is less than 20, enter "20"				
2. *Independent Claims*	10	minus	11	**	= 0	X $200 / $100 =	$0
			** If this number is less than 3, enter "3"				
3. If amendment enters multiple dependent claim(s) into this application for first time (leave this line blank if this is an reissue application)						$360 / $180 =	$0
4. **Original due date:** July 26, 2006							
				Check time period and enter appropriate fee			
5. **Petition is hereby made** to extend the original due date to cover the date this response is filed for which the requisite fee is:				☒ 1 month ☐ 2 months. ☐ 3 months.		$120 / $60 $450 / $225 $1020 / $510	$120
6. ☐ Attached is a Petition/Fee under Rule No.						$	$0
7. Other Fee for							$0
8. **Total Fee Enclosed:**							$120

This is a 2 page form, continued on next page . . .

9. ☒ Please charge the total fee on line 8 above to our deposit account below under the stated order number.

10. ☒ Attachments: Response.

CHARGE STATEMENT: Deposit Account No. 501860, order no. (client-matter no.) **2615-0054**.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached. **This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.**

CUSTOMER NUMBER 42624	Respectfully submitted, By: _____ Brian Siritzky, Ph.D. Registration No. 37,497

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PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number: 10/259,497

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	80	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	80 minus 20=	* 60
INDEPENDENT CLAIMS	10 minus 3 =	* 7
MULTIPLE DEPENDENT CLAIM PRESENT		☐

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

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	370.00	OR	BASIC FEE	740.00
X$ 9=		OR	X$18=	1080
X42=		OR	X84=	588
+140=		OR	+280=	
TOTAL		OR	TOTAL	2408

CLAIMS AS AMENDED - PART II

8-28-06

AMENDMENT A	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 80	Minus	** 80	= 0
Independent	* 10	Minus	*** 10	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. 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.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S22	32922	(DNS or "domain name server")	US-PGPUB; USPAT	OR	ON	2006/11/28 12:03
S23	77	S22 and (resolve near hostname)	US-PGPUB; USPAT	OR	ON	2006/11/28 12:04
S24	864	S22 and (hostname)	US-PGPUB; USPAT	OR	ON	2006/11/28 12:04
S25	851	S24 and address	US-PGPUB; USPAT	OR	ON	2006/11/28 12:06
S26	3366	S22 and policy	US-PGPUB; USPAT	OR	ON	2006/11/28 12:07
S27	22	S22 near policy	US-PGPUB; USPAT	OR	ON	2006/11/28 15:08
S28	62	(STOLORZ-PAUL-E.in. or SALMON-JOHN-K.in. or WARREN-MICHAEL-S.in. or KOLLER-JEFFREY.in. or HAGBERG-ARIC.in. or YEVMENKIN-MAKSIM.in. or BRADY-MARK.in. or PFITZNER-DAVID. in.)	US-PGPUB; USPAT	OR	ON	2006/11/28 14:58
S29	0	("2003/0065762").URPN.	USPAT	OR	ON	2006/11/28 15:00
S30	2085	(traffic and control and (manage or management)) and (subscriber or subscribe) and network and server and domain and (policy)	US-PGPUB; USPAT	OR	ON	2006/11/28 15:02
S31	2085	S30 and domain	US-PGPUB; USPAT	OR	ON	2006/11/28 15:03
S32	862	S30 and "domain name"	US-PGPUB; USPAT	OR	ON	2006/11/28 15:03
S33	257	S30 and "domain name server"	US-PGPUB; USPAT	OR	ON	2006/11/28 15:04
S34	9	S33 and (domain near (resolve or resolution))	US-PGPUB; USPAT	OR	ON	2006/11/28 15:04
S35	32922	(DNS or "domain name server")	US-PGPUB; USPAT	OR	ON	2006/11/28 15:08
S36	0	S35 near policy	FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/28 15:08

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/259,497	09/30/2002	Paul E. Stolorz	P 0283641 ATC	5284

42624 7590 12/05/2006

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
WALSH, JOHN B	

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 12/05/2006

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

Office Action Summary	Application No.	Applicant(s)	
	10/259,497	STOLORZ ET AL.	
	Examiner	Art Unit	
	John B. Walsh	2151	

-- 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 *28 August 2006*.

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) *1-80* is/are pending in the application.

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

5)☒ Claim(s) *39-41* is/are allowed.

6)☒ Claim(s) *1-13,16-19,23,29,30,32,34,35,42-44,46-51,54-60,63-65,67-70 and 72-78* is/are rejected.

7)☒ Claim(s) *14,15,20-22,24-28,31,33,36-38,45,52,53,59,61,62,66,71,79,80* 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 _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. 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.

2. Claims 1-13, 16-19, 23, 29, 30, 32, 34, 35, 42-44, 46-51, 54-58, 60, 63-65, 67-70 and 72-78 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,976,090 to Ben-Shaul et al.

As concerns claim 1, a framework for delivery of Internet content comprising: a subscriber server network (figure 3); and at least one domain name server (column 2, line 5) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server attempts to resolve the hostname to at least one address corresponding a server in the subscriber server network based on at least one policy consideration (column 5, lines 20-25; column 52, lines 9-34; column 2, lines 7-11; column 1, lines 45-50-resolved based on location, proximity, and availability of resource).

As concerns claim 2, a content delivery network (figure 3; column 5, line 42), distinct from the subscriber server network, wherein, in response to a request to resolve a hostname, the domain name server provides at least one addresses (column 5, lines 20-25) of a server in the content delivery network based at least on a location of the requestor and other policy

considerations (column 6, line 57; column 7, lines 31-32 column 2, lines 7-11; column 1, lines 45-50-resolved based on location, proximity, and availability of resource; abstract).

As concerns claims 3, 7 and 9, wherein an address provided by the domain name server is selected based on one or more of: (a) geographic policies (column 6, line 45-50); (b) load share policies (column 6, lines 58-59); (c) overflow policies; and (d) network aware policies (column 6, line 57).

As concerns claims 4, 17, 32, 47 and 68, wherein the at least one policy consideration includes at least one of: a geopolitical policy governing the selection of a server in the subscriber server network according to a geographical location of a requesting client (column 5, lines 20-25; column 6, line 45-50; column 1, lines 45-50-resolved based on location, proximity); a load share policy governing the selection of a primary server from a server according to dynamic load information associated with the servers in the subscriber server network (column 6, line 57); a shedding policy governing a manner in which the load of a server in subscriber server network is to be shed to other servers in the subscriber server network; a partial failover policy governing the selection of a server in subscriber server network when at least one primary server in the subscriber server network fails to function; a failover policy governing the selection of a server at a next tier in a server hierarchy corresponding to a server group when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as one of a monitored server and a managed server.

As concerns claims 5 and 16, a domain name server for providing domain name service comprising: a location determiner (column 5, lines 20-25; need to know location in order to

refer to a local server) for determining a location of a requester; an adaptive traffic control mechanism (column 5, lines 20-25; column 52, lines 9-34) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, the domain name server attempts to provide at least one addresses of a server in a subscriber server network based on one or more of: (a) geographic policies (column 6, line 45-50 column 1, lines 45-50-resolved based on location, proximity); (b) load share policies (column 6, lines 58-59); (c) overflow policies; and (d) network aware policies (column 6, line 57; column 7).

As concerns claim 6, a method of providing domain name service comprising: receiving a request to resolve a hostname (column 5, lines 20-25; column 52, lines 9-34); determining a location of the requesting resolver (column 5, lines 20-25; need to know location in order to refer to a local server); ascertaining at least one dynamic policy consideration (column 6, line 35-65); determining an address based on the determined location and on other dynamic policy considerations (column 5, lines 20-25; need to know location in order to refer to a local server); and providing the address to the requesting resolver (column 7, lines 1-14).

As concerns claim 8, a framework for delivery of Internet content comprising: a server network (figure 3) associated with a subscriber that provides Internet content; and an adaptive traffic control (ATC) name server network having at least one domain name server (figure 3; column 2, line 5) constructed and adapted to provide policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC name server network resolves the hostname to at least one address corresponding a server in the subscriber server network based at least in part on one policy consideration (column 5,

lines 20-25; column 52, lines 9-34; column 5, lines 4-6; column 6, line 35-65; column 2, lines 7-11; column 1, lines 45-50-resolved based on location, proximity, and availability of resource).

As concerns claim 10, a framework for adaptive traffic control comprising: a server network (figure 3); and an adaptive traffic control (ATC) name server network having at least one domain name server (figure 3; column 2, line 5) constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester (column 6, line 57; column 7, lines 31-32; column 5, lines 20-25; column 2, lines 7-11; column 1, lines 45-50-resolved based on location, proximity).

As concerns claim 11, wherein the answer comprises: an Internet protocol (IP) address or a CNAME corresponding to a server in the server network (column 7, lines 1-15; column 2, table 1).

As concerns claims 12, 30, 43 and 64, wherein the server network includes at least one of: a subscriber server network; and a content delivery network (figure 3; column 5, line 42).

As concerns claims 13, 30, 44 and 65, wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy (figure 3; column 11, lines 17-34, lines 47-48; column 5, line 65-subordinate).

As concerns claims 46, 58, 67 and 74, wherein each server in the server network is at least one of: a monitored server, wherein the availability of the monitored server is dynamically monitored (column 10, line 63-column 11, line 13); and a managed server, wherein either the

availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

As concerns claims 18, 34 and 48, wherein the geo-political policy includes at least one of: a continent-based policy; a country-based policy; a region-based policy; and a time-zone based policy (column 7, lines 38-48; column 6, lines 50-54).

As concerns claims 19, 35, 49 and 77, further comprising a regulatory policy (column 10, lines 46-53; column 8, line 10).

As concerns claims 23, 60 and 72, further comprising an adaptive traffic control (ATC) administrative framework capable of administering the operations of the ATC name server network and the status of the server network (figures 3-5, 7-9; column 6, lines 45-60; column 8, lines 55-60).

As concerns claim 29, a domain name server (column 2, line 5) for resolving a hostname, comprising: a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received (column 6, line 57; column 7, lines 31-32; column 5, lines 20-25); an adaptive traffic control (ATC) mechanism capable of supporting policy-based domain name service, wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network based at least on the location as ascertained by the location determiner and at least one policy (column 7, lines 1-15; column 2, table 1).

As concerns claim 42, a method for adaptive traffic control based domain name service, comprising: receiving, by a domain name server in an adaptive traffic control (ATC) domain name server network, a request from a resolver to resolve a hostname (column 5, lines 20-25;

column 52, lines 9-34); determining an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy (column 6, line 45-50; column 6, line 57; column 7, lines 31-32 ; column 2, lines 7-11; column 1, lines 45-50- resolved based on location, proximity, and availability of resource; abstract); and causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network (column 7, lines 1-15; column 2, table 1).

As concerns claims 50 and 69, wherein said determining the IP address comprises: determining the geographic location of the client (column 5, lines 20-25; need to know location in order to refer to a local server); retrieving one or more policies relevant to the geographic location of the client (column 5, lines 20-25; column 52, lines 9-34); identifying the server according to the retrieved one or more policies (column 7, lines 1-15; column 2, table 1); and identifying the at least one of the IP address and the CNAME of the server (column 7, lines 1-15; column 2, table 1).

As concerns claims 51 and 70, further comprising establishing the at least one policy dynamically (column 5, lines 4-6; column 6, lines 54-60; column 7, lines 12-13; abstract).

As concerns claim 54, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claim 55, further comprising: dynamically updating a policy based on a dynamic policy polled by said polling to generate an updated policy; and broadcasting the updated policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claims 56, 57 and 73, further comprising monitoring, by a monitoring mechanism in a domain name server, the operational status of the domain name server (column 8, lines 55-65).

As concerns claim 63, a method for resolving a hostname, comprising: receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname(table 2; column 6, line 24-65); ascertaining at least one policy (column 6, line 24-65); determining a server in a server network based at least on the geographic location of the client and at least one policy (column 5, lines 20-25; need to know location in order to refer to a local server; column 6, line 45-50; column 1, lines 45-50-resolved based on location, proximity); and determining at least one of an IP address and a CNAME of the server based on the determined location at least one location based policy (column 7, lines 1-15; column 2, table 1).

As concerns claim 75, a method of an adaptive traffic control (ATC) administrative framework, comprising: maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname (column 5, lines 20-25; column 52, lines 9-34); monitoring the operational status of the ATC name server network (column 10, lines 63-67).

As concerns claim 76, wherein said maintaining the at least one policy comprises: receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source (column 5, lines 20-25; column 52, lines 9-34); and broadcasting

the received at least one policy to the at least one domain name server in the ATC name server network (column 10, lines 63-67).

As concerns claim 78, further comprising: polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network (column 6, line 57; column 7;column 10, lines 38-45; column 6, line 57); updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy (column 10, lines 63-67); and broadcasting the updated policy to one or more domain name servers in the ATC name server network (column 10, lines 63-67).

Allowable Subject Matter

3. Claims 14, 15, 20-22, 24-28, 31, 33, 36-38, 45, 52, 53, 59, 61, 62, 66, 71, 79 and 80 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.

4. Claims 39-41 are allowed.

Response to Arguments

The applicant argues Ben-Shaul does not teach a policy-based name resolution or dynamic policy based name resolution implemented in a domain name server. The examiner disagrees since Ben-Shaul discloses the policies are dynamically adjusted (see last line of the abstract) and the policies of the edge servers affect the operation of the domain name servers and thus the resolution of a domain name by the domain name server are influenced by these

policies. Furthermore Ben-Shaul discloses EdgeDNS which provides dynamic domain name resolution based on policies (see column 7, lines 18-23; column 8, lines 50-55).

The applicant argues Ben-Shaul's DNS servers depends "on the location of the query, and the status of the edge server in the zone from which the request was made", and these are not policy decisions. The claims are given the broadest reasonable interpretation and the applicant has not indicated the particular claim language which defines the particular policy decision that the applicant is referring to above.

The applicant argues the examiner has failed to show where Ben-Shaul discloses the claimed load share policies or the claimed overflow policies or the claimed network aware policies as they apply to claims 3, 4, 9, 17 and 47. The claims recite "selected based on one or more" and "at least one of" which do not require that all of the policies listed in the claim be addressed, only at least one.

As concerns the term "load share" policies, the claimed term is given the broadest reasonable interpretation. Ben–Shaul discloses load balancing, which to one of ordinary skill in the art is equivalent to the claimed term "load share" policies. The applicant further argues the load balancing of Ben-Shaul does not disclose the servers are configured to take different loads by percentage (see applicant's remarks page 39). This limitation has not been claimed and the claims as presently recited do not differentiate from Ben-Shaul's load balancing.

The applicant argues, on page 40, Ben-Shaul does not disclose a server hierarchy. However on page 37 of applicant's remarks the applicant indicates that Ben-Shaul describes a hierarchical DNS system.

As concerns claims 46, 58 and 67, the claim recites the term "at least one of" and "or". Therefore the limitations of "managed server" and "shed fraction" are alternatives, which do not require that all of those listed in the claim be addressed, only "at least one".

The applicant argues Ben-Shaul does not disclose a "regulatory policy". The claimed term has been given its broadest reasonable interpretation. The claim does not further define in what way the policy is implemented and appears to be only a label.

The applicant argues, as concerns claim 50, Ben-Shaul does not disclose "the domain name server: retrieving one or more policies". Claim 50 does not recite this limitation. Furthermore if Ben-Shaul's server resolves a name it needs to retrieve data, which may be found in its cache, which is dependent upon policies.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

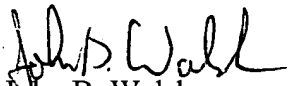
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The examiner can normally be reached on Monday-Thursday from 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. 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.



John B. Walsh
Primary Examiner
Art Unit 2151

Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination
10/259,497	STOLORZ ET AL.
Examiner	**Art Unit**
John B. Walsh	2151

SEARCHED			
Class	Subclass	Date	Examiner

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
inventor name search	11/28/2006	JW
text search in EAST-see attached search history	11/28/2006	JW

MAY 31 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:	Attorney Docket: 2711-0054
STOLORZ, Paul E. et al.	Group Art Unit: 2151
Application Serial No.: 10/259,497	Examiner: WALSH, John B.
Application Filing Date: September 30, 2002	Date: May 31, 2007
Title: **CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT**	Confirmation No.: 2584

INFORMATION DISCLOSURE STATEMENT

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

Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. One copy of each non-U.S. Patent reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

The submission of any document herewith, which is not a statutory bar, is not intended that any such document constitutes prior art against any of the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference against the claims of the present application.

This Information Disclosure Statement is being filed with a Request for Continued Examination Under § 1.114.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.

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

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

CUSTOMER NUMBER

42624

Respectfully submitted,

By: _____

Brian Siritzky, Ph.D.
Registration No.: 37,497

Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor,
Arlington Virginia 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

O.I.P.E. IAP44
MAY 31 2007
PATENT & TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
FORM PTO-1449 (modified)

Sheet 1 of 7

Application No.	10/259,497
Filing Date	09/30/2002
First Named Inventor	Paul E. Stolorz
Group Art Unit	2151
Examiner Name	John B. Walsh
Attorney Docket No.	2711-0054
Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	1-1	2001/0029525	11-Oct-01	Lahr
	1-2	2001/0056500	27-Dec-01	Farber et al.
	1-3	2002/0018449	14-Feb-02	Ricciulli
	1-4	2002/0023164	21-Feb-02	Lahr
	1-5	2002/0023165	21-Feb-02	Lahr
	1-6	2002/0040404	4-Apr-02	Lahr
	1-7	2002/0042817	11-Apr-02	Lahr
	1-8	2002/0046273	18-Apr-02	Lahr et al.
	1-9	2002/0046405	18-Apr-02	Lahr
	1-10	2002/0049857	25-Apr-02	Farber et al.
	1-11	2002/0059592	16-May-02	Kiraly
	1-12	2002/0066038	30-May-02	Mattsson
	1-13	2002/0073199	13-Jun-02	Levine et al.
	1-14	2002/0082999	27-Jun-02	Lee et al.
	1-15	2002/0083124	27-Jun-02	Knox et al.
	1-16	2002/0099850	25-Jul-02	Farber et al.
	1-17	2002/0124080	5-Sep-02	Leighton et al.
	1-18	2002/0129134	12-Sep-02	Leighton et al.
	1-19	2002/0131645	19-Sep-02	Hamilton
	1-20	2002/0143798	3-Oct-02	Lisiecki et al.
	1-21	2002/0143888	3-Oct-02	Lisiecki et al.
	1-22	2002/0147774	10-Oct-02	Lisiecki et al.
	1-23	2002/0163882	7-Nov-02	Bornstein et al.
	1-24	2002/0199016	26-Dec-02	Freedman
	1-25	2003/0009444	9-Jan-03	Eidler et al.
	1-26	2003/0018966	23-Jan-03	Cook et al.

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 2 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	2-1	2003/0028623	6-Feb-03	Hennessey et al.
	2-2	2003/0028626	6-Feb-03	Hennessey et al.
	2-3	2003/0028777	6-Feb-03	Hennessey et al.
	2-4	2003/0055972	20-Mar-03	Fuller et al.
	2-5	2003/0061263	27-Mar-03	Riddle
	2-6	2003/0061280	27-Mar-03	Bulson et al.
	2-7	2003/0078888	24-Apr-03	Lee et al.
	2-8	2003/0078889	24-Apr-03	Lee et al.
	2-9	2003/0105604	5-Jun-03	Ash et al.
	2-10	2004/0022194	5-Feb-04	Ricciulli
	2-11	2004/0139097	15-Jul-04	Farber et al.
	2-12	2004/0177148	9-Sep-04	Tsimelzon
	2-13	2005/0033858	10-Feb-05	Swildens et al.
	2-14	2005/0038851	17-Feb-05	Kriegsman
	2-15	2005/0100027	12-May-05	Leinwand et al.
	2-16	2005/0114296	26-May-05	Farber et al.
	2-17	2005/0262104	24-Nov-05	Robertson et al.
	2-18	2006/0143293	29-Jun-06	Freedman
	2-19	4591983	27-May-86	Bennett et al.
	2-20	4803641	7-Feb-89	Hardy et al.
	2-21	4847784	11-Jul-89	Clancey
	2-22	4943932	24-Jul-90	Lark et al.
	2-23	5029232	02-Jul-91	Nall
	2-24	5130792	14-Jul-92	Tindell et al.
	2-25	5132992	21-Jul-92	Yurt et al.
	2-26	5191573	02-Mar-93	Hair

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 3 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	3-1	5253275	12-Oct-93	Yurt et al.
	3-2	5675734	7-Oct-97	Hair
	3-3	5802106	01-Sep-98	Packer
	3-4	5845303	01-Dec-98	Templeman
	3-5	5966440	12-Oct-99	Hair
	3-6	5978791	02-Nov-99	Farber et al.
	3-7	6002720	14-Dec-99	Yurt et al.
	3-8	6003030	14-Dec-99	Kenner et al.
	3-9	6018516	25-Jan-00	Packer
	3-10	6029176	22-Feb-00	Cannon
	3-11	6038216	14-Mar-00	Packer
	3-12	6044405	28-Mar-00	Driscoll, III, et al.
	3-13	6046980	04-Apr-00	Packer
	3-14	6049831	11-Apr-00	Gardell et al.
	3-15	6112239	29-Aug-00	Kenner et al.
	3-16	6115357	05-Sep-00	Packer et al.
	3-17	6125388	26-Sep-00	Reisman
	3-18	6130890	10-Oct-00	Leinwand et al.
	3-19	6144702	07-Nov-00	Yurt et al.
	3-20	6154744	28-Nov-00	Kenner et al.
	3-21	6154753	28-Nov-00	McFarland
	3-22	6181867	30-Jan-01	Kenner et al.
	3-23	6205120	20-Mar-01	Packer et al.
	3-24	6249810	19-Jun-01	Toporek et al.
	3-25	6269394	22-Apr-03	Kenner et al.
	3-26	6275470	14-Aug-01	Ricciulli

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 4 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	4-1	6298041	02-Oct-01	Packer
	4-2	6314565	06-Nov-01	Kenner et al.
	4-3	6338044	08-Jan-02	Cook et al.
	4-4	6370580	09-Apr-02	Kriegsman
	4-5	6405252	11-Jun-02	Gupta et al.
	4-6	6405257	11-Jun-02	Gersht et al.
	4-7	6412000	25-Jun-02	Riddle et al.
	4-8	6415280	02-Jul-02	Farber et al.
	4-9	6421726	16-Jul-02	Kenner et al.
	4-10	6430618	6-Aug-02	Karger et al.
	4-11	6456630	24-Sep-02	Packer et al.
	4-12	6460085	01-Oct-02	Toporek et al.
	4-13	6473405	29-Oct-02	Ricciulli
	4-14	6480893	12-Nov-02	Kriegsman
	4-15	6484143	19-Nov-02	Swildens et al.
	4-16	6490580	03-Dec-02	Dey et al.
	4-17	6493707	10-Dec-02	Dey et al.
	4-18	6496856	17-Dec-02	Kenner et al.
	4-19	6502125	31-Dec-02	Kenner et al.
	4-20	6505248	07-Jan-03	Casper et al.
	4-21	6529477	04-Mar-03	Toporek et al.
	4-22	6553413	22-Apr-03	Leighton et al.
	4-23	6553420	22-Apr-03	Karger et al.
	4-24	6557054	29-Apr-03	Reisman
	4-25	6564251	13-May-03	Katariya et al.
	4-26	6577595	10-Jun-03	Counterman

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 5 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	5-1	6581090	17-Jun-03	Lindbo et al.
	5-2	6584083	24-Jun-03	Toporek et al.
	5-3	6591299	08-Jul-03	Riddle et al.
	5-4	6611862	26-Aug-03	Reisman
	5-5	6625643	23-Sep-03	Colby et al.
	5-6	6654344	25-Nov-03	Toporek et al.
	5-7	6654807	25-Nov-03	Farber et al.
	5-8	6658464	02-Dec-03	Reisman
	5-9	6665706	16-Dec-03	Kenner et al.
	5-10	6665726	16-Dec-03	Leighton et al.
	5-11	6691148	10-Feb-04	Zinky et al.
	5-12	6694358	17-Feb-04	Swildens et al.
	5-13	6699418	02-Mar-04	Okada et al.
	5-14	6708137	16-Mar-04	Carley
	5-15	6718328	06-Apr-04	Norris
	5-16	6741563	25-May-04	Packer
	5-17	6751673	15-Jun-04	Shaw
	5-18	6754699	22-Jun-04	Swildens et al.
	5-19	6754706	22-Jun-04	Swildens et al.
	5-20	6763388	13-Jul-04	Tsimelzon
	5-21	6778502	17-Aug-04	Ricciulli
	5-22	6799221	28-Sep-04	Kenner et al.
	5-23	6801576	05-Oct-04	Haldeman et al.
	5-24	6834306	21-Dec-04	Tsimelzon
	5-25	6842604	11-Jan-05	Cook et al.
	5-26	6870851	22-Mar-05	Leinwand et al.

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 6 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
	6-1	6874032	29-Mar-05	Gersht et al.
	6-2	6901604	19-Jun-01	Kiraly
	6-3	6915329	05-Jul-05	Kriegsman
	6-4	6928442	09-Aug-05	Farber et al.
	6-5	6934255	23-Aug-05	Toporek et al.
	6-6	6950623	27-Sep-05	Brown et al.
	6-7	6963980	08-Nov-05	Mattsson
	6-8	6963981	08-Nov-05	Bailey et al.
	6-9	6965890	15-Nov-05	Dey et al.
	6-10	6970432	29-Nov-05	Hankins et al.
	6-11	6973490	06-Dec-05	Robertson et al.
	6-12	6981050	27-Dec-05	Tobias et al.
	6-13	6981180	27-Dec-05	Bailey et al.
	6-14	6996616	07-Feb-06	Leighton et al.
	6-15	7003572	21-Feb-06	Lownsbrough et al.
	6-16	7007089	28-Feb-06	Freedman
	6-17	7010578	07-Mar-06	Lewin et al.
	6-18	7012900	14-Mar-06	Riddle
	6-19	7039633	02-May-06	Dey et al.
	6-20	7054935	30-May-06	Farber et al.
	6-21	7058706	06-Jun-06	Iyer et al.
	6-22	7069177	27-Jun-06	Carley
	6-23	7096266	22-Aug-06	Lewin et al.
	6-24	7103645	05-Sep-06	Leighton et al.
	6-25			
	6-26			

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 7 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

NON-PATENT REFERENCES			
Examiner Initials*	Cite No.	Non-patent Reference bibliographic information, where available	T[1]
	7-1	"Content Management Technology/Industry News," Content Technologies Trends and Advice, Gilbane Report, News for June, 1999 [21 pages].	
	7-2		
	7-3		
	7-4		
	7-5		
	7-6		
	7-7		
	7-8		
	7-9		
	7-10		

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

[1]Translation provided.

MAY 31 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION of:
First named inventor: STOLORZ, Paul E. et al.
Application Number: 10/259,497
Filing date: September 30, 2002
Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Attorney Docket: 2711-0054
Confirmation Number: 5284
Group Art Unit: 2151
Examiner: WALSH, John B.
Date: May 31, 2007

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

Sir:

REQUEST FOR CONTINUED EXAMINATION (RCE)

This is a request for continued examination (RCE) under 37 CFR 1.114 of the above-identified application. Please continue the examination of this application.

Prerequisites
• This application was filed on/after June 8, 1995, is not abandoned, and no court action has been filed, or if filed, it has been terminated. • An issue fee has not been paid (unless a petition under Rule 313(c)(2) is also being filed – see item 4 below). • Prosecution has been closed as defined in Rule 114(b). • Reply to any outstanding action and Rule 17(e) fee must be enclosed.

This application is entitled under Rule 114 to withdrawal of any outstanding finality or of any allowance plus a new action by the Examiner. Consideration on the merits of each submission (e.g., IDS, Amendment, new arguments, new evidence, but not appeal/reply briefs themselves) filed herewith or before the new action is respectfully requested.

Please consider the following before the next Official Action:

1. Submission required under 37 CFR 1.114:						
a.	☐	**Previously submitted**. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked. Please ☐ enter ☐ do not enter the Amendment filed				
	i.	☐	Consider the arguments in the appeal brief filed and/or reply brief filed			
	ii.	☐	Other:			
b.	☒	**Enclosed**				
	i.	☒	Amendment / Reply	iii	☒	Information Disclosure Statement (IDS)
	ii.	☐	Affidavit(s) / Declaration(s)	iv	☐	Other

06/01/2007 SZEWDIE1 00000022 10259497
01 FC:1801 790.00 OP
02 FC:1201 800.00 OP
03 FC:1253 1020.00 OP

Continued on next page . . .

2. Miscellaneous:		
a.	☐	Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
b.	☐	Other:

3. After payment of issue fee:		
	☐	The issue fee has been paid, but this RCE is based on Rule 313(c)(2). See enclosed petition.
		☐ IDS Letter ☐ Cited Appln(s) ☐ Foreign Search Report/OA ☐ PTO-1449 ☐ Cited Documents

4. Fees (The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.):			
a.	☒	The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 501860, order no. **2711-0054**. I have enclosed a duplicate copy of this sheet.	
	i.	☒	RCE fee required under 37 CFR 1.17(e) in the amount of $790.00
	ii.	☒	Extension of time fee (37 CFR 1.136 and 1.17) [Petition for Extension of Time filed herewith]
	iii.	☐	Other
b.	☒	Check number 1826 in the amount of $2610 enclosed	

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.

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

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

CUSTOMER NUMBER
42624

Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor, Arlington, VA 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No.: 37,497

MAY 31 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:		Atty. Docket No.:	2711-0054
	STOLORZ, Paul E. et al.	Confirmation No.:	5284
Appln. No.:	10/259,497	Group Art Unit:	2151
Filed:	September 30, 2002	Examiner:	WALSH, John B.
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	Date:	May 31, 2007

AMENDMENT TRANSMITTAL COVER SHEET

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

Sir:

This is a reply/amendment/letter in the above-identified application and includes the attachments hereto. The signature below is treated as the signature to the attachments in the absence of a signature thereto.

FEE REQUIREMENTS

	Claims remaining after amendment		*Highest number previously Paid For*		*Present Extra*	*Rate: Large/Small Entity*	
1. *Total*	78	minus	80	*	= 0	X $50 / $ 25 =	$
			* If this number is less than 20, enter "20"				
2. *Independent Claims*	15	minus	11	**	= 4	X $200 / $100 =	$800
			** If this number is less than 3, enter "3"				
3. If amendment enters multiple dependent claim(s) into this application for first time (leave this line blank if this is an reissue application)						$360 / $180 =	$
4. **Original due date:** March 5, 2007							
				Check time period and enter appropriate fee			
5. **Petition is hereby made** to extend the original due date to cover the date this response is filed for which the requisite fee is:				☐ 1 month ☐ 2 months. ☒ 3 months ☐ 4 months ☐ 5 months.		$120 / $60 $450 / $225 $1020 / $510 $1590 / $795 $2160 / $1080	$1020
6. ☐ Attached is a Petition/Fee under Rule No.						$	$
7. Other Fee for RCE							$790
8. **Total Fee Enclosed:**							$2610

This is a 2 page form, continued on next page . . .

9. ☐ Please charge the total fee on line 8 above to our deposit account below under the stated order number.
Our Deposit Account No.: 501860 Our Order No. (Client-Matter No.): 2711-0054

CHARGE STATEMENT: Deposit Account No. 501860, order no. 2711-0054.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached

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

CUSTOMER NUMBER
42624

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No. 37,497

Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor, Arlington, VA 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

OIPE IAP44
MAY 31 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION of:
First named inventor: STOLORZ, Paul E. et al.
Application Number: 10/259,497
Filing date: September 30, 2002
Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Attorney Docket: 2711-0054
Confirmation Number: 5284
Group Art Unit: 2151
Examiner: WALSH, John B.
Date: May 31, 2007

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

TRANSMITTAL OF REQUEST FOR CONTINUED EXAMINATION

Sir:

Attached please find the following documents, submitted for filing in connection with the above-identified application:

☒ **Request for Continued Examination (RCE) Under Rule 114**

☒ **Petition is hereby made** to extend the original due date 3 month(s) to cover the date this Request for Continuation Examination is filed for the requisite fee of $1020.00.

☒ Check No. 1826 in the amount of $2610

☒ Postcard Receipt

☒ Other: Amendment; Information Disclosure Statement; PTO Form 1449; Cited Reference (1).

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.

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

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

CUSTOMER NUMBER
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Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor, Arlington, VA 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No.: 37,497

MAY 31 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:

Inventor(s):	*Stolorz,* Paul E.; et al.	**Group Art Unit:**	2151
Appl. Serial No.:	10/259,497	**Examiner:**	Walsh, John B.
Filing Date:	09/30/2002	**Confirmation No.:**	5284
		Attorney Docket No.:	2711-0054
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	**Date:**	May 31, 2007

AMENDMENT

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

Sir:

This Amendment is being filed with a Request for Continued Examination (**RCE**) and an Information Disclosure Statement (**IDS**).

A **Petition for Extension of Time** along with the required fee is being filed herewith.

Please amend this application as follows.

Amendments to the claims begin on page 2.

Remarks begin on page 33.

IN THE CLAIMS

Please amend the claims as follows:

1 - 9. (Canceled).

10. (Currently Amended) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester, wherein each server in the server network is at least one of:

a monitored server, wherein an availability of the monitored server is dynamically monitored; and

a managed server, wherein either an availability of the managed server is dynamically monitored, or a load share or a shed fraction of the managed server is defined dynamically.

11. (Original) A framework as in claim 10 wherein the answer comprises:

an Internet protocol (IP) address or a CNAME corresponding to a server in the server network.

12. (Original) The framework according to claim 10, wherein the server network includes

at least one of:

a subscriber server network; and

a content delivery network.

13. (Previously presented) The framework according to claim 10, wherein the server network includes a subscriber server network, and wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy.

14. (Original) The framework according to claim 13, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function.

15. (Currently Amended) The framework according to claim 81 [[10]], wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

16. (Previously presented) The framework according to claim 10, wherein each domain name server in the ATC domain name server network comprises:

a location determiner constructed and adapted to determine a geographic location of a requesting client;

an adaptive traffic control (ATC) mechanism capable of facilitating the policy-based domain name service.

17. (Previously presented) The framework according to claim 10, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to a geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

18. (Original) The framework according to claim 17, wherein the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

19. (Previously presented) The framework according to claim 10, further comprising a regulatory policy.

20. (Previously presented) The framework according to claim 10, wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server.

21. (Original) The framework according to claim 20, wherein the monitoring agent is further constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers.

22. (Previously presented) The framework according to claim 20, wherein the monitoring agent is constructed and adapted to poll dynamic load share and load shed information from one or more managed servers so that the domain name server can determine the answer according to the dynamic load share and load shed information associated with the managed servers.

23. (Previously presented) The framework according to claim 10, further comprising:

an adaptive traffic control (ATC) administrative framework constructed and adapted to administer operations of the ATC name server network and the status of the server network.

24. (Previously presented) The framework according to claim 10, further comprising an adaptive traffic control (ATC) administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

25. (Original) The framework according to claim 24, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of the ATC domain name server network through event information received from at least one monitoring agent of the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server in the ATC domain name server network; and

an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

26. (Original) The framework according to claim 25, wherein the at least one source includes at least one of:

the subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities defining policies that can be received or dynamically polled by the ATC policy management mechanism; and

one or more managed servers in the server network that provide dynamic load share and load shed policies that can be polled.

27. (Original) The framework according to claim 25, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents associated with different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the consolidated trapped event information; and

an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center.

28. (Original) The framework according to claim 27, wherein the alert generation mechanism is further capable of sending the alert to the subscriber.

29. (Currently Amended) A domain name server for resolving a hostname, comprising:

a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received;

an adaptive traffic control (ATC) mechanism capable of supporting dynamic policy-based domain name service,

wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network, the answer being based at least on the location as ascertained by the location determiner and at least one policy,

wherein the server network includes a subscriber server network comprising at least one server group, and

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow server fail to function.

30. (Original) The domain name server according to claim 29, wherein the server network includes at least one of:

a subscriber server network comprising at least one server group; and

a content delivery network comprising at least one server.

31. (Currently Amended) The domain name server according to claim 84 [[29]], wherein the server network includes a subscriber server network comprising at least one server group, and

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and

a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow server fail to function.

32. (Original) The domain name server according to claim 29, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

33. (Previously presented) The domain name server according to claim 29, wherein, when the policy is a server designation policy defining a server in the server network as at least one of a monitored server and a managed server,

a monitored server corresponds to a server where the availability of the monitored server is dynamically monitored; and

a managed server corresponds to a server where either the availability of the managed server is dynamically monitored or the load share and load shed is dynamically defined.

34. (Previously presented) The domain name server according to claim 29, wherein, when the policy includes a geo-political policy, the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

35. (Previously presented) The domain name server according to claim 29, further comprising a regulatory policy.

36. (Previously presented) The domain name server according to claim 29, further comprising a monitoring agent constructed and adapted to observe events occurring during the operation of the domain name server and to send such events to an adaptive traffic control (ATC) network monitoring mechanism of an adaptive traffic control (ATC) administrative framework.

37. (Previously presented) The domain name server according to claim 36, wherein the monitoring agent is further constructed and adapted to monitor the availability of one or more servers in the server network that are designated as either a monitored server or a managed server so that the domain name server can determine the answer according to the availability of the one or more servers.

38. (Previously presented) The domain name server according to claim 36, wherein the monitoring agent is further constructed and adapted to poll dynamic

load share and load shed information from one or more managed servers so that the domain name server can determine the server according to the dynamic load share and load shed information.

39. (Original) An adaptive traffic control (ATC) administrative framework, comprising:

an administrative master agent (AMA);

at least one administrative master agent (AMA) backup; and

a network operation center, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of an adaptive traffic control (ATC) domain name server network comprising at least one domain name server through event information received from at least one monitoring agent located in the at least one domain name server; and

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server; and an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

40. (Original) The framework according to claim 39, wherein the at least one source includes at least one of:

a subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities capable of defining policies that can be dynamically polled by the ATC policy management mechanism; and one or more servers in a server network that are designated as managed servers.

41. (Original) The framework according to claim 40, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents located in different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the trapped event information; and an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center and the subscriber.

42. (Currently Amended) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network,

wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group,

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

43. (Original) The method according to claim 42, wherein the server network includes at least one of:

a subscriber server network providing content delivery service; and

a content delivery network providing the content delivery service.

44. (Currently Amended) The method according to claim 86 [[42]], wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group.

45. (Original) The method according to claim 44, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

46. (Previously presented) The method according to claim 42, wherein each server in the server network can be designated as at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

47. (Previously presented) The method according to claim 42, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

48. (Previously presented) The method according to claim 47, wherein, when the policy is a geo-political policy, the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

49. (Previously presented) The method according to claim 42, further comprising a regulatory policy.

50. (Previously presented) The method according to claim 42, wherein said determining the answer comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client;

identifying the server according to the retrieved one or more policies; and

identifying the at least one of the IP address and the CNAME of the server.

51. (Previously presented) The method according to claim 42, further comprising establishing the at least one policy.

52. (Original) The method according to claim 51, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

53. (Original) The method according to claim 52, wherein the at least one source includes at least one of:

the subscriber; and

a regulatory entity.

54. (Previously presented) The method according to claim 51, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network.

55. (Previously presented) The method according to claim 51, further comprising:

dynamically updating a policy based on a dynamic policy to generate an updated policy; and

broadcasting the updated policy to the at least one domain name server in the ATC name server network.

56. (Previously presented) The method according to claim 42, further comprising monitoring, by a monitoring mechanism in a domain name server, an operational status of the domain name server.

57. (Previously presented) The method according to claim 56, wherein said monitoring comprises:

monitoring events that occur during operation of the domain name server; and

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

58. (Previously presented) The method according to claim, further comprising monitoring, by a monitoring mechanism, the availability of one or more servers that are designated as either a monitored server or a managed server whereby the domain name server can determine the answer according to the availability of the one or more servers.

59. (Previously presented) The method according to claim 42, further comprising polling, by a monitoring mechanism, dynamic load share or load shed information from one or more managed servers in the server network whereby the domain name server can determine the answer according to the dynamic load share and load shed information.

60. (Previously presented) The method according to claim 42, further comprising administering, by an ATC administrative framework, an operational status of the ATC name server network.

61. (Original) The method according to claim 60, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and processing the consolidated events.

62. (Original) The method according to claim 61, further comprising:

generating an alert based on results from said processing; and

sending the alert to an network operation center of the ATC administrative network and the subscriber.

63. (Currently Amended) A method for resolving a hostname, comprising, by a domain name server in an adaptive traffic control (ATC) name server network, the method comprising:

receiving a request to resolve a hostname;

ascertaining at least one policy; and then

determining a server in a server network based at least on the geographic location of the client and said at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one location-based policy,

wherein the server network includes a subscriber server network, and wherein the subscriber server network includes at least one server group, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

64. (Original) The method according to claim 63, wherein the server network includes at least one of:

a subscriber server network; and

a content delivery network.

65. (Currently Amended) The method according to claim 88 [[63]], wherein the server network includes a subscriber server network, and wherein the subscriber server network includes at least one server group.

66. (Original) The method according to claim 65, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

67. (Previously presented) The method according to claim 63, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

68. (Original) The method according to claim 67, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function;

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server; and a regulatory policy.

69. (Previously presented) The method according to claim 63, wherein said determining the server comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client; and

determining the server according to the retrieved one or more policies.

70. (Previously presented) The method according to claim 63, further comprising dynamically establishing the at least one policy.

71. (Original) The method according to claim 70, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

72. (Previously presented) The method according to claim 63, further comprising

monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server.

73. (Previously presented) The method according to claim 72, wherein said monitoring comprises:

monitoring events that occur during operation of the domain name server;

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

74. (Previously presented) The method according to claim 73, further comprising

monitoring the availability of one or more servers that are designated as either a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

75. (Currently Amended) A method of an adaptive traffic control (ATC) administrative framework, comprising:

maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname;

monitoring the operational status of the ATC name server network, wherein said monitoring comprises:

receiving, by an ATC network monitoring mechanism in the ATC administrative framework, events sent from at least one monitoring mechanism of the at least one domain name server;

consolidating the events to form consolidated events; and processing the consolidated events.

76. (Original) The method according to claim 75, wherein said maintaining the at least one policy comprises:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source; and

broadcasting the received at least one policy to the at least one domain name server in the ATC name server network.

77. (Original) The method according to claim 76, wherein the at least one source includes at least one of:

a subscriber; and

a regulatory entity.

78. (Previously presented) The method according to claim 75, further comprising:

polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network;

updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy; and

broadcasting the updated policy to one or more domain name servers in the ATC name server network.

79. (canceled).

80. (Currently Amended) The method according to claim 75 [[79]], further comprising:

generating an alert based on results from said processing; and sending the alert to an network operation center of the ATC administrative framework and the subscriber.

Please add the following new claims:

81. (New) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester, wherein the server network includes a subscriber server network, and wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function.

82. (New) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester,

wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server.

83. (New) A framework for adaptive traffic control comprising:

a server network;

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester; and

an adaptive traffic control (ATC) administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

84. (New) A domain name server for resolving a hostname, comprising:

a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received;

an adaptive traffic control (ATC) mechanism capable of supporting dynamic policy-based domain name service,

wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network, the answer being based at least on the location as ascertained by the location determiner and at least one policy,

wherein, when the policy is a server designation policy defining a server in the server network as at least one of a monitored server and a managed server, wherein

a monitored server corresponds to a server where the availability of the monitored server is dynamically monitored; and

a managed server corresponds to a server where either the availability of the managed server is dynamically monitored or the load share and load shed is dynamically defined.

85. (New) A domain name server for resolving a hostname, comprising:

a location determiner capable of determining a geographic location of a client from which a request to resolve a hostname is received;

an adaptive traffic control (ATC) mechanism capable of supporting dynamic policy-based domain name service; and

a monitoring agent constructed and adapted to observe events occurring during the operation of the domain name server and to send such events to an adaptive traffic control (ATC) network monitoring mechanism of an adaptive traffic control (ATC) administrative framework,

wherein, in response to the request from the client, the domain name server provides an answer which is at least one of an IP address and a CNAME of a server in a server network, the answer being based at least on the location as ascertained by the location determiner and at least one policy.

86. (New) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

87. (New) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy;

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network; and

further comprising administering, by an ATC administrative framework, an operational status of the ATC name server network, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and processing the consolidated events.

88. (New) A method for resolving a hostname, comprising, by a domain name server in an adaptive traffic control (ATC) name server network, the method comprising:

receiving a request to resolve a hostname;

ascertaining at least one policy; and then

determining a server in a server network based at least on the geographic location of the client and said at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one location-based policy, and the method further comprising

dynamically establishing the at least one policy, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

REMARKS

Reconsideration and allowance of this application are respectfully requested.

By this Amendment, claims 1-9 and 79 have been canceled and new claims 81-88 have been added. No new matter has been added by any amendments.

Claims 2-78 and 80 to 88 are pending in this application.

The Examiner indicated that claims 39-41 are allowed.

The Examiner objected to claims 14, 15, 20-22, 24-28, 31, 33, 36-38, 45, 52, 53, 59, 61, 62, 66, 71, 79 and 80 as being dependent upon a rejected base claim, and indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims have been amended as follows:

Claim 10 has been amended to include the subject matter of objected-to claim 15.

Claim 29 has been amended to include the subject matter of objected-to claim 31.

Claim 42 has been amended to include the subject matter of objected-to claims 44 & 45.

Claim 63 has been amended to include the subject matter of objected-to claims 65 & 66.

Claim 75 has been amended to include the subject matter of objected-to claim 79.

Claim 80 has been amended to reflect dependency on claim 75.

New claim 81 is a combination of claim 10 with claim 13 and objected-to claim 14.

New claim 82 is a combination of claim 10 with objected-to claim 20.

New claim 83 is a combination of claim 10 with objected-to claim 24.

New claim 84 is a combination of claim 29 and objected-to claim 33.

New claim 85 is a combination of claim 29 and objected-to claim 36.

New claim 86 is a combination of claim 42 and objected-to claim 52.

New claim 87 is a combination of claims 42 and 60 and objected-to claim 61.

New claim 88 is a combination of claims 63 and 70 and objected-to claim 71.

Claim 15 has been amended to reflect its dependency on new claim 81.

Claim 31 has been amended to reflect its dependency on new claim 84.

Claim 44 has been amended to reflect its dependency on new claim 86.

Claim 65 has been amended to reflect its dependency on new claim 88.

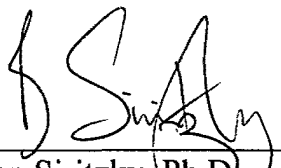
Claim 80 has been amended to reflect its dependency on claim 75.

The Examiner had rejected various claims under 35 U.S.C. § 102(e) over Ben-Shaul (U.S. Patent No. 6,976,090). In view of the above, withdrawal of this rejection under §102 is respectfully requested.

CONCLUSION

Applicant respectfully submits that this application is in condition for allowance and an early action to that effect is earnestly solicited.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054.**
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached. **This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.**

CUSTOMER NUMBER 42624	Respectfully submitted, By:  Brian Siritzky, Ph.D. Registration No.: 37,497

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 Wilson Blvd., 7th Floor, Arlington, Virginia 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

BEST AVAILABLE COPY

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number: 10/259,497

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	80	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	80 minus 20=	* 60
INDEPENDENT CLAIMS	10 minus 3 =	* 7
MULTIPLE DEPENDENT CLAIM PRESENT		☐

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

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	370.00	OR	BASIC FEE	740.00
X$ 9=		OR	X$18=	1080
X42=		OR	X84=	588
+140=		OR	+280=	
TOTAL		OR	TOTAL	2408

8-28-06

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 80	Minus	** 80	= 0
Independent	* 10	Minus	*** 10	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

5-31-07

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 78	Minus	** 80	= 0
Independent	* 15	Minus	*** 10	= 5
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	900
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. 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.

clm 58

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/259,497	09/30/2002	Paul E. Stolorz	2711-0054	5284

42624 7590 06/21/2007

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
WALSH, JOHN B	

ART UNIT	PAPER NUMBER
2151	

MAIL DATE	DELIVERY MODE
06/21/2007	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)	
	10/259,497	STOLORZ ET AL.	
	Examiner	Art Unit	
	John B. Walsh	2151	

-- 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 *rce of 5/31/07*.

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) *10-78 and 80-88* is/are pending in the application.

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

5)☒ Claim(s) *39-41,65,66,75-78,80,83,87,88* is/are allowed.

6)☒ Claim(s) *10-23,29-38,42-51,54-60,63,64,67-70,72-74,81,82 and 84-86* is/are rejected.

7)☒ Claim(s) *24-28,52,53,58,61,62 and 71* 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 *5/31/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 58 is objected to because of the following informalities: Claim 58 does not recite its dependent claim. It appears from previous claim listings it should be dependent upon claim 42. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. 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 a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 10-23, 29-38, 42-51, 54-60, 63, 64, 67-70, 72-74, 81, 82 and 84-86 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,754,699 B2 to Swildens et al.

As concerns claims 10, 15, 29, 33, 42, 46, 50, 55, 63, 67, 69, 81, 82 and 84-86, a server network (figures 1-3); and an adaptive traffic control name server network having at least one domain name server (205) constructed and adapted to provide adaptive policy-based domain name service, wherein in response to a request to resolve a hostname (column 2, lines 20-24), at least one domain name server in the ATC domain name server network provides an answer based on a policy (column 2, lines 54-59) and on a location/geographic of the requestor (column 2, lines 42-46), wherein each server in the server network is at least one of: a monitored server, wherein an availiability of the monitored server is dynamically monitored (column 2, lines 31-39; column 2, line 55); and a managed server, whererin either an availiability of the managed

server is dynamically monitored, or a load share or a shed fraction of the managed server is defined dynamically.

As concerns claims 11, 29, 50, 63 and 84-86, the answer comprises an IP address or a CNAME (column 2, line 67) corresponding to a server in the server network.

As concerns claims 12, 30, 43 and 64, a content delivery network (column 2, line 10).

As concerns claims 13, 29, 42, 44, 63 and 81, a subscriber server network (column 17, line 44; column 10, lines 7-9; column 10, line 30) comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy (column 2, line 59).

As concerns claims 14, 29, 31, 42, 45 and 81, a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function (column 20, lines 31-41).

As concerns claims 16 and 69, wherein each domain name server comprises a location determiner constructed and adapted to determine a geographic location of a requesting client (column 2, lines 40-60); an adapative traffic control mechanism capable of facilitating the policy-based domain name service (column 2, lines 40-60).

As concerns claims 17, 32, 47, 68 and 84, the at least one policy includes at least one of: a load share policy governing the selection of a server from a server group according to a dynamic load share information associated with the servers in the server group (column 2, lines 56-57).

As concerns claims 18, 34 and 48, recite "wherein the geopolitical policy includes at least one of". Claim 18 is dependent upon claim 17, claim 34 is dependent upon claim 29 and claim 48 is dependent upon claim 47 wherein the geopolitical policy was one choice to be selected. It was not selected in claims 17, 29 and 47 and therefore is not limiting in claims 18, 34 and 48.

As concerns claims 19 and 35, a regulatory policy (column 29, 13-14; column 26, lines 33-35).

As concerns claims 20, 36 and 82, a monitoring agent (column 14, lines 19-29; column 29, lines 27-34).

As concerns claims 21, 37, 56-58, 60 and 72-74, the monitoring agent is further constructed and adapted to monitor availability/event of one or servers in the network (column 29, line 12).

As concerns claims 22, 38, 57 and 59, the monitoring agent is further constructed and adapted to poll dynamic load share and load shed (column 29, line 12).

As concerns claim 23, further comprising an adaptive traffic control (ATC) administrative framework capable of administering the operations of the ATC name server network and the status of the server network (column 2, line 2-global traffic; column 25, lines 3-4).

As concerns claim 51, establishing at least one policy (column 2, lines 54-59).

As concerns claims 54 and 55, broadcasting the at least one policy to the at least one domain name server (column 5, lines 22-39).

As concerns claims 70 and 86, dynamically establishing the at least one policy (column 2, lines 54-59; column 2, lines 31-39; column 2, line 55).

Allowable Subject Matter

4. The indicated allowability of claims 14, 15, 20-22, 31, 33, 36-38, 45 and 59 is withdrawn in view of the newly discovered reference. Rejections based on the newly cited reference is found above.

5. Claims 39-41, 65, 66, 75-78, 80, 83, 87 and 88 are allowed.

6. Claims 24-28, 52, 53, 61, 62 and 71 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.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The examiner can normally be reached on Monday-Thursday from 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. 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.

John B. Walsh
Primary Examiner
Art Unit 2151



INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified)	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
Sheet 1 of 7	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	1-1	2001/0029525	11-Oct-01	Lahr
	1-2	2001/0056500	27-Dec-01	Farber et al.
	1-3	2002/0018449	14-Feb-02	Ricciulli
	1-4	2002/0023164	21-Feb-02	Lahr
	1-5	2002/0023165	21-Feb-02	Lahr
	1-6	2002/0040404	4-Apr-02	Lahr
	1-7	2002/0042817	11-Apr-02	Lahr
	1-8	2002/0046273	18-Apr-02	Lahr et al.
	1-9	2002/0046405	18-Apr-02	Lahr
	1-10	2002/0049857	25-Apr-02	Farber et al.
	1-11	2002/0059592	16-May-02	Kiraly
	1-12	2002/0066038	30-May-02	Mattsson
	1-13	2002/0073199	13-Jun-02	Levine et al.
	1-14	2002/0082999	27-Jun-02	Lee et al.
	1-15	2002/0083124	27-Jun-02	Knox et al.
	1-16	2002/0099850	25-Jul-02	Farber et al.
	1-17	2002/0124080	5-Sep-02	Leighton et al.
	1-18	2002/0129134	12-Sep-02	Leighton et al.
	1-19	2002/0131645	19-Sep-02	Hamilton
	1-20	2002/0143798	3-Oct-02	Lisiecki et al.
	1-21	2002/0143888	3-Oct-02	Lisiecki et al.
	1-22	2002/0147774	10-Oct-02	Lisiecki et al.
	1-23	2002/0163882	7-Nov-02	Bornstein et al.
	1-24	2002/0199016	26-Dec-02	Freedman
	1-25	2003/0009444	9-Jan-03	Eidler et al.
JW	1-26	2003/0018966	23-Jan-03	Cook et al.

Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 2 of 7		
	Application No.	10/259,497
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	First Named Inventor	Paul E. Stolorz
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U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	2-1	2003/0028623	6-Feb-03	Hennessey et al.
	2-2	2003/0028626	6-Feb-03	Hennessey et al.
	2-3	2003/0028777	6-Feb-03	Hennessey et al.
	2-4	2003/0055972	20-Mar-03	Fuller et al.
	2-5	2003/0061263	27-Mar-03	Riddle
	2-6	2003/0061280	27-Mar-03	Bulson et al.
	2-7	2003/0078888	24-Apr-03	Lee et al.
	2-8	2003/0078889	24-Apr-03	Lee et al.
	2-9	2003/0105604	5-Jun-03	Ash et al.
	2-10	2004/0022194	5-Feb-04	Ricciulli
	2-11	2004/0139097	15-Jul-04	Farber et al.
	2-12	2004/0177148	9-Sep-04	Tsimelzon
	2-13	2005/0033858	10-Feb-05	Swildens et al.
	2-14	2005/0038851	17-Feb-05	Kriegsman
	2-15	2005/0100027	12-May-05	Leinwand et al.
	2-16	2005/0114296	26-May-05	Farber et al.
	2-17	2005/0262104	24-Nov-05	Robertson et al.
	2-18	2006/0143293	29-Jun-06	Freedman
	2-19	4591983	27-May-86	Bennett et al.
	2-20	4803641	7-Feb-89	Hardy et al.
	2-21	4847784	11-Jul-89	Clancey
	2-22	4943932	24-Jul-90	Lark et al.
	2-23	5029232	02-Jul-91	Nall
	2-24	5130792	14-Jul-92	Tindell et al.
	2-25	5132992	21-Jul-92	Yurt et al.
JW	2-26	5191573	02-Mar-93	Hair

Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 3 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	3-1	5253275	12-Oct-93	Yurt et al.
	3-2	5675734	7-Oct-97	Hair
	3-3	5802106	01-Sep-98	Packer
	3-4	5845303	01-Dec-98	Templeman
	3-5	5966440	12-Oct-99	Hair
	3-6	5978791	02-Nov-99	Farber et al.
	3-7	6002720	14-Dec-99	Yurt et al.
	3-8	6003030	14-Dec-99	Kenner et al.
	3-9	6018516	25-Jan-00	Packer
	3-10	6029176	22-Feb-00	Cannon
	3-11	6038216	14-Mar-00	Packer
	3-12	6044405	28-Mar-00	Driscoll, III, et al.
	3-13	6046980	04-Apr-00	Packer
	3-14	6049831	11-Apr-00	Gardell et al.
	3-15	6112239	29-Aug-00	Kenner et al.
	3-16	6115357	05-Sep-00	Packer et al.
	3-17	6125388	26-Sep-00	Reisman
	3-18	6130890	10-Oct-00	Leinwand et al.
	3-19	6144702	07-Nov-00	Yurt et al.
	3-20	6154744	28-Nov-00	Kenner et al.
	3-21	6154753	28-Nov-00	McFarland
	3-22	6181867	30-Jan-01	Kenner et al.
	3-23	6205120	20-Mar-01	Packer et al.
	3-24	6249810	19-Jun-01	Toporek et al.
	3-25	6269394	22-Apr-03	Kenner et al.
JW	3-26	6275470	14-Aug-01	Ricciulli

Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 4 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	4-1	6298041	02-Oct-01	Packer
	4-2	6314565	06-Nov-01	Kenner et al.
	4-3	6338044	08-Jan-02	Cook et al.
	4-4	6370580	09-Apr-02	Kriegsman
	4-5	6405252	11-Jun-02	Gupta et al.
	4-6	6405257	11-Jun-02	Gersht et al.
	4-7	6412000	25-Jun-02	Riddle et al.
	4-8	6415280	02-Jul-02	Farber et al.
	4-9	6421726	16-Jul-02	Kenner et al.
	4-10	6430618	6-Aug-02	Karger et al.
	4-11	6456630	24-Sep-02	Packer et al.
	4-12	6460085	01-Oct-02	Toporek et al.
	4-13	6473405	29-Oct-02	Ricciulli
	4-14	6480893	12-Nov-02	Kriegsman
	4-15	6484143	19-Nov-02	Swildens et al.
	4-16	6490580	03-Dec-02	Dey et al.
	4-17	6493707	10-Dec-02	Dey et al.
	4-18	6496856	17-Dec-02	Kenner et al.
	4-19	6502125	31-Dec-02	Kenner et al.
	4-20	6505248	07-Jan-03	Casper et al.
	4-21	6529477	04-Mar-03	Toporek et al.
	4-22	6553413	22-Apr-03	Leighton et al.
	4-23	6553420	22-Apr-03	Karger et al.
	4-24	6557054	29-Apr-03	Reisman
	4-25	6564251	13-May-03	Katariya et al.
JW	4-26	6577595	10-Jun-03	Counterman

Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 5 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	5-1	6581090	17-Jun-03	Lindbo et al.
	5-2	6584083	24-Jun-03	Toporek et al.
	5-3	6591299	08-Jul-03	Riddle et al.
	5-4	6611862	26-Aug-03	Reisman
	5-5	6625643	23-Sep-03	Colby et al.
	5-6	6654344	25-Nov-03	Toporek et al.
	5-7	6654807	25-Nov-03	Farber et al.
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Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 6 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 7 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

[1]Translation provided.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:

Inventor(s):	*Stolorz,* Paul E.; et al.	**Group Art Unit:**	2151
Appl. Serial No.:	10/259,497	**Examiner:**	WALSH, John B.
Filing Date:	09/30/2002	**Confirmation No.:**	5284
		Attorney Docket No.:	2711-0054
		Date:	August 31, 2007

Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

AMENDMENT

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

Sir:

Responsive to the Non-Final Official Action mailed 06/21/2007, please amend this application as follows.

Amendments to the claims begin on page 2.

Remarks begin on page 31.

An **Information Disclosure Statement** is being filed herewith.

IN THE CLAIMS

Please amend the claims as follows:

1 - 9. (Canceled).

10. (Currently Amended) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester, wherein each server in the server network is at least one of:

a monitored server, wherein an availability of the monitored server is dynamically monitored; and

a managed server, wherein either an availability of the managed server is dynamically monitored, or a load share or a shed fraction of the managed server is defined dynamically, wherein the framework further comprises:

an ATC administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

11. (Original) A framework as in claim 10 wherein the answer comprises:

an Internet protocol (IP) address or a CNAME corresponding to a server in the server network.

12. (Original) The framework according to claim 10, wherein the server network includes

at least one of:

a subscriber server network; and

a content delivery network.

13. (Previously presented) The framework according to claim 10, wherein the server network includes a subscriber server network, and wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy.

14. (Original) The framework according to claim 13, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function.

15. (Previously presented) The framework according to claim 81, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored, or the load share or the shed fraction of the managed server is defined dynamically.

16. (Previously presented) The framework according to claim 10, wherein each domain name server in the ATC domain name server network comprises:

a location determiner constructed and adapted to determine a geographic location of a requesting client;

an adaptive traffic control (ATC) mechanism capable of facilitating the policy-based domain name service.

17. (Previously presented) The framework according to claim 10, wherein the at least one policy includes at least one of:

a geo-political policy governing the selection of a server group in the server network according to a geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

18. (Original) The framework according to claim 17, wherein the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

19. (Previously presented) The framework according to claim 10, further comprising a regulatory policy.

20. (Previously presented) The framework according to claim 10, wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server.

21. (Original) The framework according to claim 20, wherein the monitoring agent is further constructed and adapted to monitor availability of one or more servers in the server network that are designated as either a monitored

server or a managed server whereby the domain name server can determine the server according to the availability of the one or more servers.

22. (Previously presented) The framework according to claim 20, wherein the monitoring agent is constructed and adapted to poll dynamic load share and load shed information from one or more managed servers so that the domain name server can determine the answer according to the dynamic load share and load shed information associated with the managed servers.

23. (Previously presented) The framework according to claim 10, further comprising:

an adaptive traffic control (ATC) administrative framework constructed and adapted to administer operations of the ATC name server network and the status of the server network.

24. (Canceled)

25. (Currently Amended) The framework according to claim 10 **[[24]]**, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of the ATC domain name server network through event information received from at least one monitoring agent of the at least one domain name server;

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting

the at least one policy to the at least one domain name server in the ATC domain name server network; and

an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

26. (Original) The framework according to claim 25, wherein the at least one source includes at least one of:

the subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities defining policies that can be received or dynamically polled by the ATC policy management mechanism; and

one or more managed servers in the server network that provide dynamic load share and load shed policies that can be polled.

27. (Original) The framework according to claim 25, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents associated with different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the consolidated trapped event information; and

an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center.

28. (Original) The framework according to claim 27, wherein the alert generation mechanism is further capable of sending the alert to the subscriber.

29-38. (canceled)

39. (Original) An adaptive traffic control (ATC) administrative framework, comprising:

an administrative master agent (AMA);

at least one administrative master agent (AMA) backup; and

a network operation center, wherein the AMA comprises:

an ATC network monitoring mechanism capable of monitoring the operations of an adaptive traffic control (ATC) domain name server network comprising at least one domain name server through event information received from at least one monitoring agent located in the at least one domain name server; and

an ATC policy management mechanism capable of receiving and dynamically polling at least one policy from at least one source and broadcasting the at least one policy to the at least one domain name server; and an administrative master backup mechanism capable of enabling the at least one administrative master agent backup to function in place of the AMA when the AMA fails to function.

40. (Original) The framework according to claim 39, wherein the at least one source includes at least one of:

a subscriber capable of interacting with the administrative master agent to define subscriber's policies and providing dynamic policies that can be polled by the ATC policy management mechanism;

one or more policy entities capable of defining policies that can be dynamically polled by the ATC policy management mechanism; and one or more servers in a server network that are designated as managed servers.

41. (Original) The framework according to claim 40, wherein the ATC network monitoring mechanism comprises:

a trap handler capable of receiving event information from monitoring agents located in different ATC domain name servers and consolidating the trapped event information;

a processing mechanism capable of analyzing the trapped event information; and an alert generation mechanism capable of generating an alert according to the processing result from said processing and sending the alert to the network operation center and the subscriber.

42. (Currently Amended) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network,

wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group,

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function,

the method further comprising establishing the at least one policy, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

43. (Original) The method according to claim 42, wherein the server network includes at least one of:

a subscriber server network providing content delivery service; and

a content delivery network providing the content delivery service.

44. (Previously presented) The method according to claim 86, wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group.

45. (Original) The method according to claim 44, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

46. (Previously presented) The method according to claim 42, wherein each server in the server network can be designated as at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

47. (Previously presented) The method according to claim 42, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function; and

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server.

48. (Previously presented) The method according to claim 47, wherein, when the policy is a geo-political policy, the geo-political policy includes at least one of:

a continent-based policy;

a country-based policy;

a region-based policy; and

a time-zone based policy.

49. (Previously presented) The method according to claim 42, further comprising a regulatory policy.

50. (Previously presented) The method according to claim 42, wherein said determining the answer comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client;

identifying the server according to the retrieved one or more policies; and

identifying the at least one of the IP address and the CNAME of the server.

51. (Currently Amended) The method according to claim 89 [[42]], further comprising establishing the at least one policy.

52. (Original) The method according to claim 51, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source;

dynamically polling the at least one policy from one or more managed servers in the server network.

53. (Currently Amended) The method according to claim 42 **[[52]]**, wherein the at least one source includes at least one of:

the subscriber; and

a regulatory entity.

54. (Previously presented) The method according to claim 51, further comprising broadcasting the at least one policy to the at least one domain name server in the ATC name server network.

55. (Previously presented) The method according to claim 51, further comprising:

dynamically updating a policy based on a dynamic policy to generate an updated policy; and

broadcasting the updated policy to the at least one domain name server in the ATC name server network.

56. (Previously presented) The method according to claim 42, further comprising monitoring, by a monitoring mechanism in a domain name server, an operational status of the domain name server.

57. (Previously presented) The method according to claim 56, wherein said monitoring comprises:

monitoring events that occur during operation of the domain name server; and

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

58. (Previously presented) The method according to claim 42, further comprising monitoring, by a monitoring mechanism, the availability of one or more servers that are designated as either a monitored server or a managed server whereby the domain name server can determine the answer according to the availability of the one or more servers.

59. (Previously presented) The method according to claim 42, further comprising polling, by a monitoring mechanism, dynamic load share or load shed information from one or more managed servers in the server network whereby the domain name server can determine the answer according to the dynamic load share and load shed information.

60. (Previously presented) The method according to claim 42, further comprising administering, by an ATC administrative framework, an operational status of the ATC name server network.

61. (Original) The method according to claim 60, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and processing the consolidated events.

62. (Original) The method according to claim 61, further comprising:

generating an alert based on results from said processing; and

sending the alert to an network operation center of the ATC administrative network and the subscriber.

63. (Currently Amended) A method for resolving a hostname, comprising, by a domain name server in an adaptive traffic control (ATC) name server network, the method comprising:

receiving a request to resolve a hostname;

ascertaining at least one policy; and then

determining a server in a server network based at least on the geographic location of the client and said at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one location-based policy,

wherein the server network includes a subscriber server network, and wherein the subscriber server network includes at least one server group, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third

tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function,

the method further comprising dynamically establishing the at least one policy, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

64. (Original) The method according to claim 63, wherein the server network includes at least one of:

a subscriber server network; and

a content delivery network.

65. (Previously presented) The method according to claim 88, wherein the server network includes a subscriber server network, and wherein the subscriber server network includes at least one server group.

66. (Original) The method according to claim 65, wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function.

67. (Previously presented) The method according to claim 63, wherein each server in the server network is at least one of:

a monitored server, wherein the availability of the monitored server is dynamically monitored; and

a managed server, wherein either the availability of the managed server is dynamically monitored or the load share or the load shed of the managed server is dynamically defined.

68. (Original) The method according to claim 67, wherein the at least one policy includes one or more of:

a geo-political policy governing the selection of a server group in the server network according to the geographical location of the client;

a load share policy governing the selection of a server from a server group according to dynamic load share information associated with the servers in the server group;

a shedding policy governing how the load of a server in a server group is to be shed to other servers;

a failover policy governing the selection of a server at a tier of a server hierarchy when at least one of the servers at the same tier fail to function;

a tiered failover policy governing the selection of a server at a next tier in a server hierarchy when servers in a previous tier fail to function;

a server designation policy defining a server in the server network as at least one of a monitored server and a managed server; and a regulatory policy.

69. (Previously presented) The method according to claim 63, wherein said determining the server comprises:

determining the geographic location of the client;

retrieving one or more policies relevant to the geographic location of the client; and

determining the server according to the retrieved one or more policies.

70-71 (cancelled)

72. (Previously presented) The method according to claim 63, further comprising

monitoring, by a monitoring mechanism of the domain name server, the operational status of the domain name server.

73. (Previously presented) The method according to claim 72, wherein said monitoring comprises:

monitoring events that occur during operation of the domain name server;

sending the events to an ATC network monitoring mechanism in the ATC administrative framework.

74. (Previously presented) The method according to claim 73, further comprising

monitoring the availability of one or more servers that are designated as either a monitored server or a managed server so that the domain name server can determine the server according to the availability of the one or more servers.

75. (Previously presented) A method of an adaptive traffic control (ATC) administrative framework, comprising:

maintaining at least one policy used by at least one domain name server in an adaptive traffic control (ATC) name server network to determine the IP address of a server in a server network in response to a request from a client to resolve a hostname;

monitoring the operational status of the ATC name server network, wherein said monitoring comprises:

receiving, by an ATC network monitoring mechanism in the ATC administrative framework, events sent from at least one monitoring mechanism of the at least one domain name server;

consolidating the events to form consolidated events; and processing the consolidated events.

76. (Original) The method according to claim 75, wherein said maintaining the at least one policy comprises:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in the ATC administrative framework, the at least one policy from at least one source; and

broadcasting the received at least one policy to the at least one domain name server in the ATC name server network.

77. (Original) The method according to claim 76, wherein the at least one source includes at least one of:

a subscriber; and

a regulatory entity.

78. (Previously presented) The method according to claim 75, further comprising:

polling one or more load share or load shed policies from one or more servers that are designated as managed servers in the server network;

updating a policy using a corresponding dynamic policy that is either received from the at least one source or polled from a managed server to generate an updated policy; and

broadcasting the updated policy to one or more domain name servers in the ATC name server network.

79. (canceled).

80. (Previously presented) The method according to claim 75 **[[**79**]]**, further comprising:

generating an alert based on results from said processing; and sending the alert to an network operation center of the ATC administrative framework and the subscriber.

81. (Currently Amended) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester, wherein the server network includes a subscriber server network, and wherein the subscriber server network comprises at least one server group, wherein each of the at least one server groups corresponds to a server hierarchy, wherein the server hierarchy includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising at least one first level overflow server that functions when the at least one primary server in the first tier fails to function; and a third tier comprising at least one second level overflow server that functions when both the at least one primary server and the one or more first level overflow server fail to function, wherein the framework further comprises:

an ATC administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center

82. (Currently Amended) A framework for adaptive traffic control comprising:

a server network; and

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester,

wherein the domain name server further comprises a monitoring agent capable of observing events that occur during the operation of the domain name server, wherein the framework further comprises:

an ATC administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

83. (Previously presented) A framework for adaptive traffic control comprising:

a server network;

an adaptive traffic control (ATC) name server network having at least one domain name server constructed and adapted to provide adaptive policy-based domain name service, wherein, in response to a request to resolve a hostname, at

least one domain name server in the ATC domain name server network provides an answer based on a policy and on a location of the requester; and

an adaptive traffic control (ATC) administrative framework, wherein the ATC administrative framework comprises:

an administrative master agent (AMA);

at least one administrative master backup agent; and

a network operation center.

84-85 (cancelled)

86. (Currently amended) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network, wherein said establishing the at least one policy comprises at least one of:

receiving, by an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework, the at least one policy from at least one source, wherein the at least one source includes at least one of: the subscriber; and a regulatory entity;

dynamically polling the at least one policy from one or more managed servers in the server network; and

monitoring, by a monitoring mechanism, the availability of one or more servers that are designated as either a monitored server or a managed server whereby the domain name server can determine the answer according to the availability of the one or more servers.

87. (Previously presented) A method for adaptive traffic control based domain name service, comprising:

receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy;

causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network; and

further comprising administering, by an ATC administrative framework, an operational status of the ATC name server network, wherein said administering comprises:

receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and processing the consolidated events.

88. (Previously presented) A method for resolving a hostname, comprising, by a domain name server in an adaptive traffic control (ATC) name server network, the method comprising:

receiving a request to resolve a hostname;

ascertaining at least one policy; and then

determining a server in a server network based at least on the geographic location of the client and said at least one policy; and

determining at least one of an IP address and a CNAME of the server based on the determined location at least one location-based policy, and the method further comprising

dynamically establishing the at least one policy, wherein said establishing the at least one policy comprises at least one of:

receiving the at least one policy broadcasted from an adaptive traffic control (ATC) policy management mechanism of an administrative master agent (AMA) in an adaptive traffic control (ATC) administrative framework; and

dynamically polling one or more load share or load shed policies from one or more managed servers in the server network; and

updating a policy based on a corresponding dynamic policy that is either received from the ATC policy management mechanism or polled from a managed server to generate an updated policy.

Please add the following new claim:

89. (New) A method for adaptive traffic control based domain name service, comprising:

(A) receiving, by a domain name server in an adaptive traffic control (ATC) name server network, a request to resolve a hostname;

(B) determining, by the domain name server, an answer corresponding to a server in a server network based at least on the geographic location of the client and at least one policy; and

(C) causing the answer to be provided to the requestor, wherein the answer is at least one of the IP address and the CNAME of a server in a server network,

wherein the server network includes a subscriber server network providing content delivery service, and wherein the subscriber server network includes at least one server group,

wherein each server group corresponds to a server hierarchy that includes at least one of:

a first tier comprising at least one primary server;

a second tier comprising one or more first level overflow servers that function when the at least one primary server fails to function; and a third tier comprising one or more second level overflow servers that function when both the at least one primary server and the one or more first level overflow servers fail to function; and

(D) administering, by an ATC administrative framework, an operational status of the ATC name server network, wherein said administering comprises:

(d1) receiving events from monitoring mechanisms of the domain name servers in the ATC name server network;

(d2) consolidating, by the ATC network monitoring mechanism, the events received from the domain name servers to generate consolidated events; and

(d3) processing the consolidated events.

REMARKS

Reconsideration and allowance of this application are respectfully requested.

By this Amendment, claims 24, 29-38, 84 and 85 have been canceled, claims 10, 25, 42, 52, 63, 81, 82 and 86 have been amended and new claim 89 has been added. No new matter has been added by any amendments.

Claims 10-23, 25-28, 39-41, 42-62, 63-70, 72-83, 86-89 are pending in this application.

The Examiner indicated that claims 39-41, 65, 66, 75-78, 80, 83, 87 and 88 are allowed.

The Examiner objected to claims 24-28, 52, 53, 58, 61, 62 and 71 as being dependent upon a rejected base claim, and indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims have been amended as follows:

Claim 10 has been amended to include the subject matter of objected-to claim 24.

Claim 42 has been amended to include the subject matter of claim 51 and objected-to claim 52.

New claim 89 is a combination of claim 42 with and objected-to claim 61.

Claim 51 has been amended to depend from new claim 89.

Claims 81 and 82 have both been amended to include the subject matter of objected-to claim 24.

Claim 63 has been amended to include the subject matter of objected-to claim 71 (and intermediate claim 70).

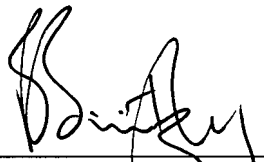
In addition, claim 86 has been amended to include subject matter of objected-to claims 53 and 58.

The Examiner rejected claims 10-23, 29-38, 42-51, 54-60, 63, 64, 67-70, 72-74, 81, 82 and 84-86 under §102(e). In view of the above amendments, withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicant respectfully submits that this application is in condition for allowance and an early action to that effect is earnestly solicited. The Examiner is respectfully invited to contact the undersigned at the number provided to resolve any outstanding issues or concerns.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached.
This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

CUSTOMER NUMBER 42624	Respectfully submitted, By:  Brian Siritzky, Ph.D. Registration No.: 37,497

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:	Attorney Docket: 2711-0054
STOLORZ, Paul et al.	Group Art Unit: 2151
Application Serial No.: 10/259,497	Examiner: Walsh, John B.
Application Filing Date: September 30, 2002	Date: August 31, 2007
Title: **CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT**	Confirmation No.: 5284

INFORMATION DISCLOSURE STATEMENT

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

Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. One copy of each non-U.S. Patent reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

The submission of any document herewith, which is not a statutory bar, is not intended that any such document constitutes prior art against any of the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference against the claims of the present application.

This Information Disclosure Statement is being filed more than three (3) months after the U.S. filing date AND after the mailing date of the first Office

Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached **This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.**

CUSTOMER NUMBER

42624

Respectfully submitted,

By: _____

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified)	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
Sheet 1 of 15	Confirmation No.	5284

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Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 2 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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Examiner Signature		Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 3 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 4 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 5 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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Examiner Signature		Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 6 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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Examiner Signature		Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 7 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 8 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document	T[1]
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	8-26				

Examiner Signature		Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 9 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

NON-PATENT REFERENCES

Examiner Initials*	Cite No.	Non-patent Reference bibliographic information, where available	T[1]
	9-1	"Exporting Web Server Final Report," http://www.cs.technion.ac.il/Labs/Lccn/projects/spring97/project4/final_report.html, Spring 1997 (downloaded 07/07/07).	
	9-2	"Patent Abstracts of Japan, Electronic Mail Multiplexing System and Communication Control Method in the System" (Appln. No. JP19930162529), (06/30/1993) (Pub. No. JP 7066829)	
	9-3	Adler, R. M., "Distributed Coordination Models for Client/Server Computing," Computer 28, 4 (Apr. 1995), 14-22.	
	9-4	Andresen et al., "SWEB: Towards a Scalable World Wide Web Server on Multicomputers", Proc. IPPS, (04/15/1996), 850-856.	
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	9-8	Bestavros, A., "Speculative Data Dissermination and Service to Reduce Server Load, Network Traffic and Service Time in Distributed Information Systems", In Proc. ICDE '96: The 1996 Int'l Conf. on Data Engineering, (Mar. 1996), 4 pages	
	9-9	Bestavros, et al., "Server-Initiated Document Dissemination for the WWW," IEEE Data Engineering Bulletin 19(3):3-11, Sept. 1996.	
	9-10	Bhattacharjee et al., "Application-layer anycasting," in Proc. IEEE INFOCOM '97, 1997.	

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	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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	10-1	Braun, H., et al., "Web traffic characterization: an assessment of the impact of caching documents from NCSA's web server," Comput. Netw. ISDN Syst. 28, 1-2 (Dec. 1995), 37-51.	
	10-2	Brisco, T. P. RFC 1794: DNS support for load balancing, Apr. 1995.	
	10-3	Carter et al., "Dynamic server selection using bandwidth probing in wide-area networks," Tech. Rep. BU-CS-96-007, Comp. Sci. Dept., Boston University, Mar. 1996.	
	10-4	Carter et al., Server selection using dynamic path characterization in Wide-Area Networks, IEEE INFOCOM '97, 1997 (pp. 1014-1021).	
	10-5	CARTER, J. Lawrence et al., "Universal Classes of Hash Functions", Journal of Computer and System Sciences, Vol. 18, No. 2, (April 1979), 143 -154	
	10-6	Chankhunthod, A. et al., "A Hierarchical Internet Object Cache", Proc. of the 1996 USENIX Technical Conf., Jan. 1996, pp. 153-163.	
	10-7	Cisco Systems, Inc., Cisco DistributedDirector 2500 Series Installation and Configuration Guide, pp. xix - xxii; 1-1 to 1-12; 6-1 to 6-18; 7-1 to 7-18; 8-1 to 8-24, pub. date unknown, downloaded 04/07: http://www.cisco.com/univercd/cc/td/doc/product/iaabu/distrdir/dd2501/.	
	10-8	Cisco Systems, Inc., Cisco DistributedDirector 4700-M Installation and Configuration Guide, pgs. xix-xxii; 1-1 to 1-14; 7-1 to 7-18, 8-1 to 8-20; pub. date unknown, [downloaded 04/07 from http://www.cisco.com/univercd/cc/td/doc/product/iaabu/distrdir/dd4700m/].	
	10-9	Cohen, J., et al., "Cache Array Routing Protocol v1.1", 29 Sept. 1997; http://tools.ietf.org/id/draft-vinod-carp-v1-01.txt (Last-Modified: Wed, 01 Oct 1997).	
	10-10	Colajanni, M. and Yu, P. S. 1997. Adaptive TTL schemes for load balancing of distributed Web servers. SIGMETRICS Perform. Eval. Rev. 25, 2 (Sep. 1997), 36-42.	

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	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
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	Confirmation No.	5284

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	11-1	Cormen, T. H., et al., "Introduction to Algorithms", The MIT Press, Cambridge, Massachusetts, (1994), 219-243, 991-993.	
	11-2	Crovella et al., Dynamic server selection in the Internet, 3rd IEEE Workshop on the Arch. and Implementation of High Performance Computer Sys. '95, pp. 158-162, Aug. 1995.	
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	11-4	De Bra, P.M.E., et al., "Information Retrieval in the World Wide Web: Making Client-Based Searching Feasible", Computer Networks and ISDN Systems, NL, North Holland Publishing, Amsterdam, Vol. 27, No. 2, ISSN: 0169-7552, (11/01/1994), 183-192.	
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	11-6	Devine, R., "Design and Implementation of DDH: A Distributed Dynamic Hashing Algorithm", In Proc. 4th Int'l Conf. on Foundations of Data Organizations and Algorithms, (1993), 101-114.	
	11-7	Doi, K. "Super Proxy Script--How to make distributed proxy servers by URL hashing," Sharp Corp., http://naragw.sharp.co.jp/sps/, dates unknown (1996 -2000), download 07/07/07.	
	11-8	Feeley, M., et al., "Implementing Global Memory Management in a Workstation Cluster", In Proc. 15th ACM Symp. on Operating Systems Principles, (1995), 201-212.	
	11-9	Floyd, S., et al., "A Reliable Multicast Framework for Light-Weight Sessions and Application Level Framing", In Proc. of ACM SIGCOMM '95, 342-356, August, 1995.	
	11-10	Fox, A., "A Framework for Separating Server Scalability and Availability from Internet Application Functionality," PhD thesis, University of California, Berkeley, 1998.	

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	12-2	Fredman, M., et al., "Storing a Sparse Table with 0(1) Worst Case Access Time", J. ACM, Vol. 31, No. 3, (July 1984), 538-544.	
	12-3	Goldszmidt, et al., "Load Distribution for Scalable Web Servers: Summer Olympics 1996--A Case Study," In Proc. 8th IFIP/IEEE Int'l Workshop on Distributed Systems: Operations and Management, Sydney, Australia, Oct. 1997.	
	12-4	Grigni, M., et al., "Tight Bounds on Minimum Broadcasts Networks", SIAM J. Disc. Math. 4 (1991), 207-222.	
	12-5	Gulbrandsen, A., et al., "A DNS RR for specifying the location of services (DNS SRV)", Network Working Group, RFC 2052, Oct. 1996.	
	12-6	Guyton et al., "Locating nearby copies of replicated Internet servers," Proc. ACM SIGCOMM '95, pp. 288-298, 1995.	
	12-7	Gwertzman, J., et al., "The Case for Geographical Push-Caching", Proc. Workshop on Hot OS '95, (05/04/1995), 51-55.	
	12-8	Gwertzman, J., et al., "World-Wide Web Cache Consistency", Proc. 1996 USENIX Tech. Conf., pgs. 141-151, San Diego, CA, Jan. 1996.	
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	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
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	Confirmation No.	5284

NON-PATENT REFERENCES			
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	13-1	Kwan et al., NCSA's World Wide Web Server: Design and Performance, IEEE, pp. 68-74, Nov. 1995.	
	13-2	Litwin, W., et al., "LH*-A Scalable, Distributed Data Structure", ACM Trans. on Database Systems, Vol. 21, No. 4, pp 480-525, 1996.	
	13-3	Luotonen et al., World-Wide Web Proxies, CERN, Apr. 1994 (modified May 24, 1994).	
	13-4	Malpani, R., et al., "Making World Wide Web Caching Servers Cooperate", in Proc. 4th Int'l. World Wide Web Conf. (Dec. 1995), 10 pages (downloaded from http://www.w3.org/Conferences/WWW4/Papers/59/ on 07/07/07).	
	13-5	Mockapetris et al., "Development of the Domain Name System," Proc. SIGCOMM '88 Computer Communications Review, vol. 18, No. 4, Aug. 1988.	
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	13-8	Mourad et al., "Scalable Web Server Architectures," iscc, 2nd IEEE Symposium on Computers and Communications (ISCC '97), 1997, pp. 12-16.	
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	13-10	Oguchi et al., A Study of Caching Proxy Mechanisms Realized on Wide Area Distributed Networks, High Performance Distributed Computing, 5th Int'l Symposium, pp. 443-449, 1996.	

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	14-2	Panigrahy, R., "Relieving Hot Spots on the World Wide Web", Master's thesis, MIT EECS, June 1997, pp 1-66.	
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	14-10	Schuba, Christoph; "Addressing Weaknesses in the Domain Name System Protocol," COAST Laboratory, Dept. of Computer Sciences, Purdue University; West Layfayette, IN; Aug. 1993, p. 1-87.	

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	Group Art Unit	2151
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	15-1	Smith, "What can Archives offer the World Wide Web?", Technical Report 11, University of Kent, Computing Laboratory, University of Kent, Canterbury, UK, 1994.	
	15-2	Tarjan, Robert E., et al., "Storing a Sparse Table", Commun.ACM, 22, 11, (Nov. 1979), 606-611.	
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	15-7	Yao, A. C. 1981. Should Tables Be Sorted?. J. ACM 28, 3 (Jul. 1981), 615-628.	
	15-8		
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	15-10		

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AUG 31 2007 PATENT & TRADEMARK OFFICE

1pw 2151

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:		Atty. Docket No.:	2711-0054
	STOLORZ, Paul et al.	Confirmation No.:	5284
Appln. No.:	10/259,497	Group Art Unit:	2151
Filed:	September 30, 2002	Examiner:	Walsh, John B.
Title:	CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	Date:	August 31, 2007

AMENDMENT TRANSMITTAL COVER SHEET

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

Sir:

This is a reply/amendment/letter in the above-identified application and includes the attachments hereto. The signature below is treated as the signature to the attachments in the absence of a signature thereto.

FEE REQUIREMENTS

	Claims remaining after amendment		*Highest number previously Paid For*		*Present Extra*	*Rate: Large/Small Entity*	
1. *Total*	64	minus	80	*	= 0	X $50 / $ 25 =	$0
			* If this number is less than 20, enter "20"				
2. *Independent Claims*	12	minus	15	**	= 0	X $200 / $100 =	$0
			** If this number is less than 3, enter "3"				
3. If amendment enters multiple dependent claim(s) into this application for first time (leave this line blank if this is an reissue application)						$360 / $180 =	$0
4. **Original due date:** September 22, 2007							
				Check time period and enter appropriate fee			
5. **Petition is hereby made** to extend the original due date to cover the date this response is filed for which the requisite fee is:				☐ 1 month ☐ 2 months. ☐ 3 months ☐ 4 months ☐ 5 months.		$120 / $60 $450 / $225 $1020 / $510 $1590 / $795 $2160 / $1080	$0
6. ☐ Attached is a Petition/Fee under Rule No.						$	$0
7. Other Fee for							$0
8. **Total Fee Enclosed:**							$0

This is a 2 page form, continued on next page . . .

9. ☒ Please charge the total fee on line 8 above to our deposit account below under the stated order number.
Our Deposit Account No.: 501860 Our Order No. (Client-Matter No.): 2711-0054

CHARGE STATEMENT: Deposit Account No. 501860, order no. 2711-0054.
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached

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

CUSTOMER NUMBER
42624

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No. 37,497

Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor, Arlington, VA 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S37	3076	709/238.ccls.	US-PGPUB; USPAT	OR	ON	2007/06/14 11:07
S38	16409	709/223,224,238,245,202.ccls.	US-PGPUB; USPAT	OR	ON	2007/06/14 11:08
S39	12830	S38 and server	US-PGPUB; USPAT	OR	ON	2007/06/14 11:08
S40	16409	709/223,224,238,245,202.ccls.	US-PGPUB; USPAT	OR	ON	2007/06/14 11:12
S41	16409	S40	US-PGPUB; USPAT	OR	OFF	2007/06/14 11:12
S42	12424	S40 and server	US-PGPUB; USPAT	OR	OFF	2007/06/14 11:12
S43	2549	S42 and (policy or policies)	US-PGPUB; USPAT	OR	OFF	2007/06/14 11:13
S44	572	S43 and (DNS or "domain name service" or "domain name server")	US-PGPUB; USPAT	OR	OFF	2007/06/14 11:16
S45	16409	709/223,224,238,245,202.ccls.	US-PGPUB; USPAT	OR	ON	2007/06/14 12:27
S46	12424	S45 and server	US-PGPUB; USPAT	OR	OFF	2007/06/14 12:27
S47	2549	S46 and (policy or policies)	US-PGPUB; USPAT	OR	OFF	2007/06/14 12:27
S48	572	S47 and (DNS or "domain name service" or "domain name server")	US-PGPUB; USPAT	OR	OFF	2007/06/14 12:28
S49	171	S48 and (hostname or "host name")	US-PGPUB; USPAT	OR	OFF	2007/06/14 12:28
S50	4	S49 and ((policy or policies) near (DNS or "domain name service" or "domain name server"))	US-PGPUB; USPAT	OR	OFF	2007/06/14 12:34

EAST Search History

S51	26	(("20010029525") or ("20010056500") or ("20020018449") or ("20020023164") or ("20020023165") or ("20020040404") or ("20020042817") or ("20020046273") or ("20020046405") or ("20020049857") or ("20020059592") or ("20020066038") or ("20020073199") or ("20020082999") or ("20020083124") or ("20020099850") or ("20020124080") or ("20020129134") or ("20020131645") or ("20020143798") or ("20020143888") or ("20020147774") or ("20020163882") or ("20020199016") or ("20030009444") or ("20030018966")).PN.	US-PGPUB; USPAT	OR	OFF	2007/06/14 15:22
S52	26	(("20030028623") or ("20030028626") or ("20030028777") or ("20030055972") or ("20030061263") or ("20030061280") or ("20030078888") or ("20030078889") or ("20030105604") or ("20040022194") or ("20040139097") or ("20040177148") or ("20050033858") or ("20050038851") or ("20050100027") or ("20050114296") or ("20050262104") or ("20060143293") or ("4591983") or ("4803641") or ("4847784") or ("4943932") or ("5029232") or ("5130792") or ("5132992") or ("5191573")).PN.	US-PGPUB; USPAT	OR	OFF	2007/06/14 15:35
S53	26	(("5253275") or ("5675734") or ("5802106") or ("5845303") or ("5966440") or ("5978791") or ("6002720") or ("6003030") or ("6018516") or ("6029176") or ("6038216") or ("6044405") or ("6046980") or ("6049831") or ("6112239") or ("6115357") or ("6125388") or ("6130890") or ("6144702") or ("6154744") or ("6154753") or ("6181867") or ("6205120") or ("6249810") or ("6269394") or ("6275470")).PN.	US-PGPUB; USPAT	OR	OFF	2007/06/14 15:54

EAST Search History

S54	26	(("6298041") or ("6314565") or ("6338044") or ("6370580") or ("6405252") or ("6405257") or ("6412000") or ("6415280") or ("6421726") or ("6430618") or ("6456630") or ("6460085") or ("6473405") or ("6480893") or ("6484143") or ("6490580") or ("6493707") or ("6496856") or ("6502125") or ("6505248") or ("6529477") or ("6553413") or ("6553420") or ("6557054") or ("6564251") or ("6577595")).PN.	US-PGPUB; USPAT	OR	OFF	2007/06/14 16:01
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S56	24	(("6874032") or ("6901604") or ("6915329") or ("6928442") or ("6934255") or ("6950623") or ("6963980") or ("6963981") or ("6965890") or ("6970432") or ("6973490") or ("6981050") or ("6981180") or ("6996616") or ("7003572") or ("7007089") or ("7010578") or ("7012900") or ("7039633") or ("7054935") or ("7058706") or ("7069177") or ("7096266") or ("7103645")).PN.	US-PGPUB; USPAT	OR	OFF	2007/06/14 16:52

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L2	119	L1 and (policy and server and agent)	US-PGPUB	OR	ON	2007/09/14 13:18
L3	7	L1 and (policy and server and agent). clm.	US-PGPUB	OR	ON	2007/09/14 13:19

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NOTICE OF ALLOWANCE AND FEE(S) DUE

42624 7590 09/20/2007

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
WALSH, JOHN B	
ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 09/20/2007

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/259,497	09/30/2002	Paul E. Stolorz	2711-0054	5284

TITLE OF INVENTION: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$0	$1700	12/20/2007

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

42624 7590 09/20/2007

DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/259,497	09/30/2002	Paul E. Stolorz	2711-0054	5284

TITLE OF INVENTION: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$0	$1700	12/20/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
WALSH, JOHN B	2151	709-238000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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.

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

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EXAMINER	
WALSH, JOHN B	
ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 09/20/2007

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 758 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 758 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Notice of Allowability	Application No.	Applicant(s)	
	10/259,497	STOLORZ ET AL.	
	Examiner	Art Unit	
	John B. Walsh	2151	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amdt of 8/31/07*.

2. ☒ The allowed claim(s) is/are *10-23,25-28,39-69,72-78,80-83,86-89*.

3. ☐ 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 the:
      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)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 8/31/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

JOHN WALSH
PRIMARY EXAMINER

DETAILED ACTION

Information Disclosure Statement

1. Due to the large amount of references cited on the IDS of August 31, 2007 only a cursory review of the documents has been performed by the examiner. The examiner requests the applicant indicate which references are most pertinent and how they are associated to the claimed invention.

Allowable Subject Matter

2. Claims 10-23,25-28,39-69,72-78,80-83 and 86-89 are allowed.

3. The following is an examiner's statement of reasons for allowance: The prior art of record does not teach or suggest the applicant's invention as claimed in detail. See also Applicant's remarks of August 31, 2007.

Conclusion

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The examiner can normally be reached on Monday-Thursday from 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on 571-272-3440. 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.

John B. Walsh
Primary Examiner
Art Unit 2151

OIPE IAP32
AUG 31 2007
PATENT & TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified)	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
Sheet 1 of 15	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	1-1	US-2004039798	02/26/2004	Hotz et al.
	1-2	US-4495570	Jan-85	Kitajima et al.
	1-3	US-4594704	Jun-86	Ollivier
	1-4	US-4726017	Feb-88	Krum et al.
	1-5	US-4839798	Jun-89	Eguchi et al.
	1-6	US-4920432	Apr-90	Eggers
	1-7	US-4922417	05/1990	Churm et al.
	1-8	US-4949187	Aug-90	Cohen
	1-9	US-4949248	Aug-90	Caro
	1-10	US-5136716	08/1992	Harvey; George A.
	1-11	US-5172413	Dec-92	Bradley
	1-12	US-5253341	Oct-93	Rozmanith
	1-13	US-5287499	02/1994	Nemes
	1-14	US-5287537	Feb-94	Newmark et al.
	1-15	US-5291554	Mar-94	Morales
	1-16	US-5341477	Aug-94	Pitkin et al.
	1-17	US-5371532	Dec-94	Gelman
	1-18	US-5410343	Apr-95	Coddington
	1-19	US-5414455	May-95	Hooper
	1-20	US-5442389	Aug-95	Blahut
	1-21	US-5442390	Aug-95	Hooper
	1-22	US-5442749	Aug-95	Northcutt
	1-23	US-5471622	Nov-95	Eadline
	1-24	US-5475615	Dec-95	Lin
	1-25	US-5508732	Apr-96	Bottomley
JW	1-26	US-5515511	May-96	Nguyen

Examiner Signature	John B. Walsh	Date Considered	9/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 2 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	2-1	US-5519435	May-96	Anderson
	2-2	US-5528281	Jun-96	Grady
	2-3	US-5539621	Jul-96	Kikinis
	2-4	US-5542087	07/1996	Neimat et al.
	2-5	US-5544313	Aug-96	Shachnai
	2-6	US-5544327	Aug-96	Dan
	2-7	US-5550577	Aug-96	Verbiest
	2-8	US-5550863	Aug-96	Yurt
	2-9	US-5550982	Aug-96	Long
	2-10	US-5557317	Sep-96	Nishio
	2-11	US-5572643	Nov-96	Judson
	2-12	US-5590288	Dec-96	Castor
	2-13	US-5592611	Jan-97	Midgely
	2-14	US-5594910	Jan-97	Filepp et al.
	2-15	US-5603026	Feb-97	Demers et al.
	2-16	US-5619648	Apr-97	Canale
	2-17	US-5623656	Apr-97	Lyons
	2-18	US-5625781	Apr-97	Cline
	2-19	US-5627829	May-97	Gleeson et al.
	2-20	US-5630067	May-97	Kindell
	2-21	US-5633999	May-97	Clowes
	2-22	US-5634006	May-97	Baugher et al.
	2-23	US-5638443	06/1997	Stefik et al.
	2-24	US-5644714	Jul-97	Kikinis
	2-25	US-5646676	05/1995	Dewkett et al.
JW	2-26	US-5649186	Jul-97	Ferguson

Examiner Signature	John B. Walsh	Date Considered	9/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 3 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	3-1	US-5659729	Aug-97	Nielsen
	3-2	US-5666362	Sep-97	Chen
	3-3	US-5671279	Sep-97	Elgamai
	3-4	US-5682512	Oct-97	Tetrick
	3-5	US-5699513	Dec-97	Feigen et al.
	3-6	US-5708780	01/13/98	Levergood et al.
	3-7	US-5712979	01/1998	Graber et al.
	3-8	US-5715453	Feb-98	Stewart
	3-9	US-5721914	Feb-98	DeVries
	3-10	US-5734831	Mar-98	Sanders
	3-11	US-5740423	04/1998	Logan et al.
	3-12	US-5742762	Apr-98	Scholl
	3-13	US-5751961	05/1998	Smyk
	3-14	US-5761507	06/1998	Govett
	3-15	US-5761663	Jun-98	Largarde et al.
	3-16	US-5764906	06/1998	Edelstein et al.
	3-17	US-5774660	Jun-98	Brendel et al.
	3-18	US-5774668	Jun-98	Choquier et al.
	3-19	US-5777989	07/1998	McGarvey
	3-20	US-5784058	07/1998	LaStrange et al.
	3-21	US-5796952	Aug-98	Davis
	3-22	US-5799141	Aug-98	Galipeau et al.
	3-23	US-5802291	09/1998	Balick et al.
	3-24	US-5812769	09/1998	Graber et al.
	3-25	US-5815664	09/1998	Asano
JW	3-26	US-5828847	Oct-98	Gehr

Examiner Signature	John B Walsh	Date Considered	9/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 4 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	4-1	US-5832506	11/1998	Kuzma
	4-2	US-5832514	11/1998	Norin et al.
	4-3	US-5835718	11/1998	Blewett
	4-4	US-5856974	01/1999	Gervais et al.
	4-5	US-5862339	01/1999	Bonnaure
	4-6	US-5867706	02/1999	Martin et al.
	4-7	US-5867799	02/1999	Lang et al.
	4-8	US-5870546	Feb-99	Kirsch
	4-9	US-5870559	02/1999	Leshem et al.
	4-10	US-5878212	03/1999	Civanlar et al.
	4-11	US-5884038	03/1999	Kapoor
	4-12	US-5890171	03/1999	Blumer et al.
	4-13	US-5893116	04/1999	Simmonds et al.
	4-14	US-5894554	05/1999	Lowery et al.
	4-15	US-5896533	04/1999	Ramos et al.
	4-16	US-5903723	05/1999	Beck et al.
	4-17	US-5907704	05/1999	Gudmundson et al.
	4-18	US-5913028	06/1999	Wang et al.
	4-19	US-5913033	06/1999	Grout
	4-20	US-5918010	06/1999	Appleman et al.
	4-21	US-5919247	07/1999	Van Hoff et al.
	4-22	US-5920701	07/1999	Miller et al.
	4-23	US-5933832	08/1999	Suzuoka et al.
	4-24	US-5935207	08/1999	Logue et al.
	4-25	US-5945989	08/1999	Freishtat et al.
JW	4-26	US-5956489	09/1999	San Andres et al.

Examiner Signature	John B. Walsh	Date Considered	9/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 5 of 15		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	5-1	US-5956716	Sep-99	Kenner
	5-2	US-5958008	09/1999	Pogrebisky et al.
	5-3	US-5961596	10/1999	Takubo et al.
	5-4	US-5968121	10/1999	Logan et al.
	5-5	US-5973696	10-26-99	Agranat, et al.
	5-6	US-5983214	11/1999	Lang et al.
	5-7	US-5983227	11/1999	Nazem et al.
	5-8	US-5987606	11/1999	Cirasole et al.
	5-9	US-5991809	Nov-99	Kriegsman
	5-10	US-6006264	12/1999	Colby et al.
	5-11	US-6012090	01/2000	Chung et al.
	5-12	US-6014686	01/2000	Elnozahy et al.
	5-13	US-6014698	01/2000	Griffiths
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Examiner Signature	John B. Walsh	Date Considered	9/14/07

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	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

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JW	8-5	EP-0824236 A2	02/18/1998	Baird	
JW	8-6	GB-2 281 793	03/1995	Wallis	
JW	8-7	JP 10-027148	01/27/1998	Hitachi	Yes
JW	8-8	JP 10-093552	04/10/1998	NT&T	Yes
JW	8-9	JP 10-126445	05/15/1998	Sun Microsystems, Inc.	Yes
JW	8-10	JP 2001-053793	02/23/2001	NT&T	Yes
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	Application No.	10/259,497
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Paul E. Stolorz, Thousand Oaks, CA;
John K. Salmon, Altadena, CA;
Michael S. Warren, Santa Fe, NM;
Jeffrey Koller, Torrance, CA;
Aric Hagberg, Santa Fe, CA;
Maksim Yevmenkin, Thousand Oaks, CA;
Mark Brady, Thousand Oaks, CA;
David Pfitzner, Thousand Oaks, CA;

** CONTINUING DATA **********

This appln claims benefit of 60/325,177 09/28/2001

** FOREIGN APPLICATIONS **********

None

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 10/28/2002

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☑ no	CA	22	80	10

35 USC 119 (a-d) conditions met: ☐ yes ☑ no ☐ Met after Allowance

Verified and Acknowledged: Examiner's Signature _____ Initials

ADDRESS
42624

TITLE
Configurable adaptive global traffic control and management

FILING FEE RECEIVED	FEES: Authority has been given in Paper
3208	No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:

☐ All Fees
☐ 1.16 Fees (Filing)
☐ 1.17 Fees (Processing Ext. of time)
☐ 1.18 Fees (Issue)
☐ Other _____
☐ Credit

Issue Classification	Application/Control No. 10/259,497	Applicant(s)/Patent under Reexamination STOLORZ ET AL.
	Examiner John B. Walsh	Art Unit 2151

ISSUE CLASSIFICATION

ORIGINAL		INTERNATIONAL CLASSIFICATION									
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED				
709	238	G	06	F	15	/173	G	06	F	15	/173
		G	06	F	15	/16	G	06	F	15	/16

CROSS REFERENCES				
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)			
709	202	223	*	

(Assistant Examiner) (Date)	John B. Walsh 9/13/07 (Primary Examiner) (Date)	Total Claims Allowed: 64
(Legal Instruments Examiner) (Date)		O.G. Print Claim(s): 1 / O.G. Print Fig.: 1

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		31	34	61		91		121		151		181
	2		32	35	62		92		122		152		182
	3		33	36	(63)		93		123		153		183
	4		34	37	64		94		124		154		184
	5		35	58	65		95		125		155		185
	6		36	59	66		96		126		156		186
	7		37	38	67		97		127		157		187
	8		38	39	68		98		128		158		188
	9	18	(39)	40	69		99		129		159		189
1	(10)	19	40		70		100		130		160		190
2	11	20	41		71		101		131		161		191
3	12	21	(42)	41	72		102		132		162		192
4	13	22	43	42	73		103		133		163		193
5	14	54	44	43	74		104		134		164		194
50	15	55	45	44	(75)		105		135		165		195
6	16	23	46	45	76		106		136		166		196
7	17	24	47	46	77		107		137		167		197
8	18	25	48	47	78		108		138		168		198
9	19	26	49		79		109		139		169		199
10	20	27	50	48	80		110		140		170		200
11	21	61	51	49	(81)		111		141		171		201
12	22	62	52	51	(82)		112		142		172		202
13	23	28	53	52	(83)		113		143		173		203
	24	63	54		84		114		144		174		204
14	25	64	55		85		115		145		175		205
15	26	29	56	53	(86)		116		146		176		206
16	27	30	57	56	(87)		117		147		177		207
17	28	31	58	57	(88)		118		148		178		208
	29	32	59	60	(89)		119		149		179		209
	30	33	60		90		120		150		180		210

BEST AVAILABLE COPY

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number: 10/259,497

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	80	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	80 minus 20=	* 60
INDEPENDENT CLAIMS	10 minus 3 =	* 7
MULTIPLE DEPENDENT CLAIM PRESENT		☐

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

SMALL ENTITY TYPE ☐	RATE	FEE	OR	OTHER THAN SMALL ENTITY	RATE	FEE
	BASIC FEE	370.00	OR		BASIC FEE	740.00
	X$ 9=		OR		X$18=	1080
	X42=		OR		X84=	588
	+140=		OR		+280=	
	TOTAL		OR		TOTAL	2408

CLAIMS AS AMENDED - PART II

8-28-06

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 80	Minus	** 80	= 0
Independent	* 10	Minus	*** 10	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY	RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY	RATE	ADDITIONAL FEE
	X$ 9=		OR		X$18=	
	X42=		OR		X84=	
	+140=		OR		+280=	
	TOTAL ADDIT. FEE		OR		TOTAL ADDIT. FEE	

5-31-07

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 198	Minus	** 80	= 0
Independent	* 15	Minus	*** 10	= 5
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY	RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY	RATE	ADDITIONAL FEE
	X$ 9=		OR		X$18=	
	X42=		OR		X84=	800
	+140=		OR		+280=	
	TOTAL ADDIT. FEE		OR		TOTAL ADDIT. FEE	

8-31-07

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 64	Minus	** 80	=
Independent	* 11	Minus	*** 15	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY	RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY	RATE	ADDITIONAL FEE
	X$ 9=		OR		X$18=	
	X42=		OR		X84=	
	+140=		OR		+280=	
	TOTAL ADDIT. FEE		OR		TOTAL ADDIT. 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.

FORM PTO-875 (Rev. 6/01) — Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

clm 58

Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination	
10/259,497	STOLORZ ET AL.	
Examiner	**Art Unit**	
John B. Walsh	2151	

SEARCHED			
Class	Subclass	Date	Examiner

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
709	**238,223**	9/15/2007	**JW**
	245,224		
709	202	9/15/2007	JW
limited by text-see attached search history			

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
709/238,223,224,245,202-limited by text	6/14/2007.	JW

OIPE IAP97
DEC 19 2007
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION of:	Attorney Docket: 2711-0054
First named inventor: STOLORZ, Paul E. et al.	Confirmation Number: 5284
Application Number: 10/259,497	Group Art Unit: 2151
Filing date: September 30, 2002	Examiner: WALSH, John B.
Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT	Date: December 19, 2007

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

TRANSMITTAL OF REQUEST FOR CONTINUED EXAMINATION

Sir:

Attached please find the following documents, submitted for filing in connection with the above-identified application:

- ☒ **Request for Continued Examination (RCE) Under Rule 114**
- ☒ **Information Disclosure Statement**
- ☒ **Form PTO 1449**
- ☒ **Two (2) Cited References**

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054**.

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

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

CUSTOMER NUMBER

42624

Davidson Berquist Jackson & Gowdey LLP
4300 Wilson Blvd., 7th Floor, Arlington, VA 22203
Main: (703) 894-6400 • FAX: (703) 894-6430

Respectfully submitted,

By: _____

Brian Siritzky, Ph.D.
Registration No.: 37,497

O I P E IAP97 DEC 19 2007 PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION of:
First named inventor: STOLORZ, Paul E. et al.
Application Number: 10/259,497
Filing date: September 30, 2002
Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Attorney Docket: 2711-0054
Confirmation Number: 5284
Group Art Unit: 2151
Examiner: WALSH, John B.
Date: December 19, 2007

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

Sir:

REQUEST FOR CONTINUED EXAMINATION (RCE)

This is a request for continued examination (RCE) under 37 CFR 1.114 of the above-identified application. Please continue the examination of this application.

Prerequisites
• This application was filed on/after June 8, 1995, is not abandoned, and no court action has been filed, or if filed, it has been terminated. • An issue fee has not been paid (unless a petition under Rule 313(c)(2) is also being filed – see item 4 below). • Prosecution has been closed as defined in Rule 114(b). • Reply to any outstanding action and Rule 17(e) fee must be enclosed.

This application is entitled under Rule 114 to withdrawal of any outstanding finality or of any allowance plus a new action by the Examiner. Consideration on the merits of each submission (e.g., IDS, Amendment, new arguments, new evidence, but not appeal/reply briefs themselves) filed herewith or before the new action is respectfully requested.

Please consider the following before the next Official Action:

1. Submission required under 37 CFR 1.114:						
a.	☐	**Previously submitted**. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked. Please ☐ enter ☐ do not enter the Amendment filed				
	i.	☐	Consider the arguments in the appeal brief filed and/or reply brief filed			
	ii.	☐	Other: 12/21/2007 MBELETE1 00000027 501860 10259497 01 FC:1801 810.00 DA			
b.	☒	**Enclosed**				
	i.	☐	Amendment / Reply	iii	☒	Information Disclosure Statement (IDS), Form PTO 1449, two (2) cited references
	ii.	☐	Affidavit(s) / Declaration(s)	iv	☐	Other

Continued on next page . . .

2. Miscellaneous:		
a.	☐	Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
b.	☐	Other:

3. After payment of issue fee:		
	☐	The issue fee has been paid, but this RCE is based on Rule 313(c)(2). See enclosed petition.
		☐ IDS Letter ☐ Cited Appln(s) ☐ Foreign Search Report/OA ☐ PTO-1449 ☐ Cited Documents

4. Fees (The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.):			
a.	☒	The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 501860, order no. **2711-0054**.	
	i.	☒	RCE fee required under 37 CFR 1.17(e) in the amount of $810
	ii.	☐	Extension of time fee (37 CFR 1.136 and 1.17) [Petition for Extension of Time filed herewith]
	iii.	☐	Other
b.	☐	Check number in the amount of $ enclosed	

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Davidson Berquist Jackson & Gowdey LLP
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Main: (703) 894-6400 • FAX: (703) 894-6430

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No.: 37,497

OIPE IAP97 DEC 19 2007 PATENT & TRADEMARK OFFICE

1 fm

RCE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION of:
First named inventor: STOLORZ, Paul E. et al.
Application Number: 10/259,497
Filing date: September 30, 2002
Title: CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT

Attorney Docket: 2711-0054
Confirmation Number: 5284
Group Art Unit: 2151
Examiner: WALSH, John B.
Date: December 19, 2007

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O I P E IAP97 DEC 19 2007 PATENT & TRADEMARK OFFICE

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1. Submission required under 37 CFR 1.114:						
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b.	☒	**Enclosed**				
	i.	☐	Amendment / Reply	iii	☒	Information Disclosure Statement (IDS), Form PTO 1449, two (2) cited references
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Continued on next page . . .

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3. After payment of issue fee:		
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Davidson Berquist Jackson & Gowdey LLP
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Main: (703) 894-6400 • FAX: (703) 894-6430

Respectfully submitted,

By: _____
Brian Siritzky, Ph.D.
Registration No.: 37,497

OIPE AP87
DEC 19 2007
PATENT & TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 1 of 4		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
	1-1	US-5996025	11/30/99	Day
	1-2	US-6189039	02/13/01	Harvey
	1-3	US-6195680	02/27/01	Goldszmidt
	1-4	US-6226618	05/01/01	Downs
	1-5	US-6263313	07/17/01	Milsted
	1-6	US-6272566	08/07/01	Craft
	1-7	US-6398245	06/04/02	Gruse
	1-8	US-6418421	07/09/02	Hurtado
	1-9	US-6460082	10/01/02	Lumelsky
	1-10	US-6463454	10/08/02	Lumelsky
	1-11	US-6463508	10/08/02	Wolf
	1-12	US-6587837	07/01/03	Spagna
	1-13	US-6763377	07/13/04	Belknap
	1-14	US-6859791	02/22/05	Spagna
	1-15	US-6963910	11/08/05	Belknap
	1-16	US-7103564	09/05/06	Ehnebuske
	1-17	US-7110984	09/19/06	Spagna
	1-18	US-7117259	10/03/06	Rohwer
	1-19	US-7188085	03/06/07	Pelletier
	1-20	US-7206748	04/17/07	Gruse
	1-21			
	1-22			
	1-23			
	1-24			
	1-25			
	1-26			

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 2 of 4		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

NON-PATENT REFERENCES

Examiner Initials*	Cite No.	Non-patent Reference bibliographic information, where available	T[1]
	2-1	Adler, R. M., "Distributed Coordination Models for Client/Server Computing," Computer 28, 4 (Apr. 1995), 14-22.	
	2-2	Basturk, E., et al., "Using network layer anycast for load distribution in the Internet," Tech. Rep., IBM T.J. Watson Research Center, July, 1997 (21 pgs.).	
	2-3	Bhattacharjee et al., "Application-layer anycasting," in Proc. IEEE INFOCOM '97, April, 1997.	
	2-4	Cisco Systems, Inc., Cisco DistributedDirector 2500 Series Installation and Configuration Guide, pp. xix - xxii; 1-1 to 1-12; 6-1 to 6-18; 7-1 to 7-18; 8-1 to 8-24, Dec., 1997, downloaded 04/07: http://www.cisco.com/univercd/cc/td/doc/product/iaabu/distrdir/dd2501/.	
	2-5	Cisco Systems, Inc., Cisco DistributedDirector 4700-M Installation and Configuration Guide, pgs. xix-xxii; 1-1 to 1-14; 7-1 to 7-18, 8-1 to 8-20; Dec., 1997, [downloaded 04/07 from http://www.cisco.com/univercd/cc/td/doc/product/iaabu/distrdir/dd4700m/].	
	2-6	Cormen, T. H., et al., "Introduction to Algorithms", The MIT Press, Cambridge, Massachusetts, (1994), 219-243, 991-993.	
	2-7	Devine, R., "Design and Implementation of DDH: A Distributed Dynamic Hashing Algorithm", In Proc. 4th Int'l Conf. on Foundations of Data Organizations and Algorithms, (Oct., 1993), 101-114.	
	2-8	Doi, K. "Super Proxy Script--How to make distributed proxy servers by URL hashing," Sharp Corp., http://naragw.sharp.co.jp/sps/, dates unknown (1996 -2000), download 07/07/07.	
	2-9	Feeley, M., et al., "Implementing Global Memory Management in a Workstation Cluster", In Proc. 15th ACM Symp. on Operating Systems Principles, (Dec. 1995), 201-212.	
	2-10	Fox, A., "A Framework for Separating Server Scalability and Availability from Internet Application Functionality," PhD thesis, University of California, Berkeley, 1998.	

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

[1]Translation provided.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 3 of 4		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

NON-PATENT REFERENCES

Examiner Initials*	Cite No.	Non-patent Reference bibliographic information, where available	T[1]
	3-1	Grigni, M., et al., "Tight Bounds on Minimum Broadcasts Networks", SIAM J. Disc. Math. 4 (May, 1991), 207-222.	
	3-2	Guyton et al., "Locating nearby copies of replicated Internet servers," Proc. ACM SIGCOMM '95, pp. 288-298, October, 1995.	
	3-3	Jeffery, C., et al., "Proxy sharing proxy servers." In Proc. IEEE etaCOM Conf., pp.116-119, May 1996.	
	3-4	Litwin, W., et al., "LH*-A Scalable, Distributed Data Structure", ACM Trans. on Database Systems, Vol. 21, No. 4, pp 480-525, December, 1996.	
	3-5	Mockapetris et al., "Development of the Domain Name System," Proc. SIGCOMM '88 Computer Communications Review, vol. 18, No. 4, Aug. 1988.	
	3-6	Mourad et al., "Scalable Web Server Architectures," iscc, 2nd IEEE Symposium on Computers and Communications (ISCC '97), July, 1997, pp. 12-16.	
	3-7	Oguchi et al., A Study of Caching Proxy Mechanisms Realized on Wide Area Distributed Networks, High Performance Distributed Computing, 5th Int'l Symp., pp. 443-449, August, 1996.	
	3-8	Peleg, D., et al., "The Availability of Quorum Systems", Information and Computation, 123, (December, 1995), 210-223	
	3-9	Plaxton, G. C., et al., "Fast Fault-Tolerant Concurrent Access to Shared Objects", In Proc. 37th IEEE Symp. of Foundations of Computer Science, (October, 1996), 570-579.	
	3-10	Smith, "What can Archives offer the World Wide Web?", Technical Report 11, University of Kent, Computing Laboratory, University of Kent, Canterbury, UK, March, 1994.	

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

[1]Translation provided.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 4 of 4		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

NON-PATENT REFERENCES

Examiner Initials*	Cite No.	Non-patent Reference bibliographic information, where available	T[1]
	4-1	Vixie, Paul; "Name Server Operations Guide for BIND," Internet Software Consortium; La Honda, CA; p. SMM:10-2--SMM:10-30 (undated, 1996).	
	4-2	Wessels, Intelligent Caching for World-Wide Web Objects, Masters Thesis, University of Colorado, Jan. 1995 (also presented at INET '95 in June '95).	
	4-3		
	4-4		
	4-5		
	4-6		
	4-7		
	4-8		
	4-9		
	4-10		

Examiner Signature		Date Considered	

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

[1]Translation provided.

OIPE IAP97 DEC 19 2007 PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF:	Attorney Docket: 2711-0054
STOLORZ, Paul et al.	Group Art Unit: 2151
Application Serial No.: 10/259,497	Examiner: Walsh, John B.
Application Filing Date: September 30, 2002	Date: December 19, 2007
Title: **CONFIGURABLE ADAPTIVE GLOBAL TRAFFIC CONTROL AND MANAGEMENT**	Confirmation No.: 5284

INFORMATION DISCLOSURE STATEMENT FILED WITH RCE

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

Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. One copy of each non-U.S. Patent reference is attached unless previously provided. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed with an RCE.

The submission of any document herewith, which is not a statutory bar, is not intended that any such document constitutes prior art against any of the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b). Applicants do not waive any rights to take any action

which would be appropriate to antedate or otherwise remove as a competent reference against the claims of the present application.

In the Notice of Allowance mailed 09/20/2007, the Examiner stated that "only a cursory review of the documents [cited in Applicant's IDS of August 31, 2007] has been performed by the examiner." *Notice of Allowance of 09/20/2007*, §1, pg. 2. In addition, the Examiner indicated (on the Forms PTO-1449) that he did not consider certain references for various reasons:

Two references (9-3, Adler and 13-5, Mockapetris) were not considered because the Examiner said that no copy was provided. Although applicant believes that copies were earlier provided, copies of those two references are being provided herewith.

Other previously-cited references were not considered by the Examiner because they were listed without a publication *month* in the date. Applicant respectfully submits that the IDS complied with 37 CFR 1.98(b)(5) which states, in pertinent part: "Each publication listed in an information disclosure statement must be identified by publisher, author (if any), title, relevant pages of the publication, date, and place of publication." There is no requirement in §1.98 that the month of publication be included in the date. Furthermore, as noted in the MPEP, "the year of publication (without the month) will be accepted if the applicant points out in the information disclosure statement that the year of publication is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue." MPEP 609 (600-121). The U.S. filing date of the present application is 09/30/2002.

The Forms 1449 submitted herewith includes a month and year of publication for most of the references previously-cited. However, for the following four references, the year of publication is sufficiently earlier than the

effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue (per MPEP 609 (600-121)).

1. Cormen, T. H., et al., "Introduction to Algorithms", The MIT Press, Cambridge, Massachusetts, (*month unknown,* 1994), 219-243, 991-993.
2. Doi, K. "Super Proxy Script--How to make distributed proxy servers by URL hashing," Sharp Corp., http://naragw.sharp.co.jp/sps/, (1996-2000, *months unknown*), download 07/07/07.
3. Fox, Armando A Framework for Separating Server Scalability and Availability from Internet Application Functionality. PhD thesis, University of California, Berkeley, *month unknown*, 1998.
4. Vixie, Paul; "Name Server Operations Guide for BIND," Internet Software Consortium; La Honda, CA; p. SMM:10-2--SMM:10-30 (*month unknown*, 1996).

The Examiner is kindly requested to consider the above-listed references without a month in their publication date.

Continuation Applications: The Examiner is advised that two continuation applications, claiming priority to the present application, are currently pending in the U.S. Patent Office. Specifically, Application No. 11/932,162 filed on 10-31-2007; and Application No. 11/976,648 filed on 10-26-2007 which are both pending claim the benefit of 10/259,497.

CHARGE STATEMENT: Deposit Account No. 501860, order no. **2711-0054.**

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

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

CUSTOMER NUMBER

42624

Respectfully submitted,

By: _____

Brian Siritzky, Ph.D.
Registration No.: 37,497

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified)	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
Sheet 1 of 15	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication/ Issue Date	Name of Patentee or Applicant of Cited Document
JW	1-1	US-2004039798	02/26/2004	Hotz et al. 2004/0039798
	1-2	US-4495570	Jan-85	Kitajima et al.
	1-3	US-4594704	Jun-86	Ollivier
	1-4	US-4726017	Feb-88	Krum et al.
	1-5	US-4839798	Jun-89	Eguchi et al.
	1-6	US-4920432	Apr-90	Eggers
	1-7	US-4922417	05/1990	Churm et al.
	1-8	US-4949187	Aug-90	Cohen
	1-9	US-4949248	Aug-90	Caro
	1-10	US-5136716	08/1992	Harvey; George A.
	1-11	US-5172413	Dec-92	Bradley
	1-12	US-5253341	Oct-93	Rozmanith
	1-13	US-5287499	02/1994	Nemes
	1-14	US-5287537	Feb-94	Newmark et al.
	1-15	US-5291554	Mar-94	Morales
	1-16	US-5341477	Aug-94	Pitkin et al.
	1-17	US-5371532	Dec-94	Gelman
	1-18	US-5410343	Apr-95	Coddington
	1-19	US-5414455	May-95	Hooper
	1-20	US-5442389	Aug-95	Blahut
	1-21	US-5442390	Aug-95	Hooper
	1-22	US-5442749	Aug-95	Northcutt
	1-23	US-5471622	Nov-95	Eadline
	1-24	US-5475615	Dec-95	Lin
	1-25	US-5508732	Apr-96	Bottomley
JW	1-26	US-5515511	May-96	Nguyen

CP 12/28/07

Examiner Signature	John B. Walsh	Date Considered	9/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FORM PTO-1449 (modified) Sheet 6 of 7		
	Application No.	10/259,497
	Filing Date	09/30/2002
	First Named Inventor	Paul E. Stolorz
	Group Art Unit	2151
	Examiner Name	John B. Walsh
	Attorney Docket No.	2711-0054
	Confirmation No.	5284

U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	Document No.	Publication Date	Name of Patentee or Applicant of Cited Document
JW	6-1	6874032	29-Mar-05	Gersht et al.
	6-2	6901604	~~15-Jun-01~~ 5/2005	Kiraly
	6-3	6915329	05-Jul-05	Kriegsman
	6-4	6928442	09-Aug-05	Farber et al.
	6-5	6934255	23-Aug-05	Toporek et al.
	6-6	6950623	27-Sep-05	Brown et al.
	6-7	6963980	08-Nov-05	Mattsson
	6-8	6963981	08-Nov-05	Bailey et al.
	6-9	6965890	15-Nov-05	Dey et al.
	6-10	6970432	29-Nov-05	Hankins et al.
	6-11	6973490	06-Dec-05	Robertson et al.
	6-12	6981050	27-Dec-05	Tobias et al.
	6-13	6981180	27-Dec-05	Bailey et al.
	6-14	6996616	07-Feb-06	Leighton et al.
	6-15	7003572	21-Feb-06	Lownsbrough et al.
	6-16	7007089	28-Feb-06	Freedman
	6-17	7010578	07-Mar-06	Lewin et al.
	6-18	7012900	14-Mar-06	Riddle
	6-19	7039633	02-May-06	Dey et al.
	6-20	7054935	30-May-06	Farber et al.
	6-21	7058706	06-Jun-06	Iyer et al.
	6-22	7069177	27-Jun-06	Carley
	6-23	7096266	22-Aug-06	Lewin et al.
JW	6-24	7103645	05-Sep-06	Leighton et al.
	6-25			
	6-26			

Examiner Signature	John B. Walsh	Date Considered	6/14/07

*Examiner: Initial if reference was considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

1/29/08