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Jc598 U.S. PTO

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PROVISIONAL APPLICATION COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53(b)(2).

Docket Number: 4581 US					
INVENTOR(s)/APPLICANT(s)					
LAST NAME, FIRST NAME, MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)				
DAY, Richard	Mountain View, California				
SWILDENS, Eric	Mountain View, California				
GUPTA, Ajit	Fremont, California				
<input type="checkbox"/> Additional inventors are being named on separately numbered sheets attached hereto.					
TITLE OF THE INVENTION (280 characters max.)					
WAN TRAFFIC MANAGEMENT SYSTEM AND METHOD					
CORRESPONDENCE ADDRESS					
Greg T. Sueoka Fenwick & West LLP Two Palo Alto Square Palo Alto, CA 94306					
STATE	CA	ZIP CODE	94306	COUNTRY	U.S.A.
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification	No. of Pages:	7	<input type="checkbox"/> Small Entity Statement	<input checked="" type="checkbox"/> Return Postcard	
<input type="checkbox"/> Drawing(s)	No. of Sheets:		<input type="checkbox"/> Other (specify)		
METHOD OF PAYMENT (check all that apply)					
<input checked="" type="checkbox"/> Fee Transmittal Form Enclosed (in duplicate)			<input checked="" type="checkbox"/> Check Enclosed		

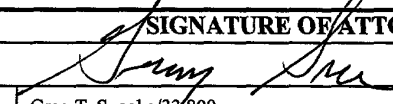
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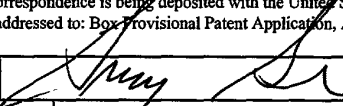
11/22/99

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government Agency and the Government contract number are: _____

SIGNATURE OF ATTORNEY OR AGENT			
Signature:			
Attorney/Reg. No.:	Greg T. Sueoka/33,800	Dated:	November 22, 1999

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service pursuant to 37 CFR 1.10 in an envelope addressed to: Box Provisional Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231 on the date shown below.			
Signature:			
Typed or Printed Name:	Greg T. Sueoka	Dated:	November 22, 1999
Express Mail Mailing Number:	EL233818067US		

PROVISIONAL APPLICATION FILING ONLY

FENWICK & WEST
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Palo Alto, CA 94306
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INVENTION DISCLOSURE FORM

PART TWO

Part Two is to be filled out whenever it is likely the company will seek a patent for an Invention. The information requested in Part Two arises largely from requirements of the US Patent law. Of particular importance are the requirements that: i) the Invention has not been described in any published document more than one year before the patent application filing date; and ii) the Invention has not been used or known by the public, or on sale, more than one year before the patent application filing date.

The law is clear in stating that 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 Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability.

In light of these legal requirements, please complete Part Two carefully and completely.

1. Inventors' Information

Full Name	Home Address (Street and PO)	Citizenship
Richard Day	912 Rich Ave #3 Mountain View, CA 94040	US
Eric Swildens	723 Tiana Lane Mountain View, CA 94041	US
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Freemont, CA
94555

2. Invention Dates

Invention first thought of on: October 11th, 1999

Date and present location of first written descriptions, drawings, or sketches:

Date: October 17th, 1999 Location: Eric Swildens Notebook

Invention first implemented on: N/A, 19__
(write N/A if invention has not yet been implemented)

Breadboard/prototype/sample program first completed
on: N/A, 19__

Breadboard/prototype/sample program first tested
on: N/A, 19__

3. Disclosure Dates

Date and location of first description, showing, or demonstration of Invention, or prototype/product/program embodying it, to company personnel is:

Date: N/A, 19__

Location: N/A

Circumstances: _____

Anticipated or actual date and location of first announcement, publication, description, or other disclosure of information relating to Invention is:

Date: _____, 19__

Location: _____

Circumstances: _____

Anticipated or actual date and location of first showing or demonstration of Invention, or prototype/product/program embodying it, to someone outside the company is:

Date: _____, 19__

Location: _____

Circumstances: _____

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

Circumstances:

YES _____ NO ☒ X

YES _____ NO X

With the web critical to the success of business, Content Providers require their sites to be fast and highly available. To achieve this they often consider deploying the dynamic portion of their site at multiple locations to provide high-availability and publish their static content to a Content Delivery Network (CDN) to increase the performance of the site.

A POP is a collection of one or more machines. Load balancing and high availability at the POP level can be supporting using a local area network (LAN) load balancing solution.

WAN traffic management solutions make decisions based on user defined criteria and typically take into consideration a load value for each POP (CPU or hitrate based aggregated for the entire POP) as well as the latency value from each POP to the client making the request. When they receive a request to resolve a hostname they look at the load and availability of each POP as well as the clients latency to each POP and return the best suited IP.

WAN traffic management and CDNs are currently separate purchases for content providers. The WAN traffic management component is typically purchased as a product. The only existing service models for WAN traffic management are from co-location facilities.

These services have limitations in that they will not manage POPs that are not in the co-location network. Often the requirements of the Content Provider are to deploy their second location in a different collocation network for redundancy and to be closer to a new group of clients.

Content Distribution Networks consist of groups of servers deployed at multiple POPs managed by a WAN traffic management solution. The POPs are chosen to be close to some group of end users (web browsers). The CDN sells the ability to have content providers data delivered from the the edge of the Internet, making the data closer to the end users. By using the CDN the load on the Content Providers machines is reduced as well as the latency for the delivering content since the servers have a better chance of being closer to the end user.

CDNs are purchased as services, these may be offered by a co-location facility and span a single network, or more likely by a third party and span multiple networks. At the core of the CDN is a WAN traffic management piece.

With independent WAN traffic management solutions maintained by both the Content Provider and the CDN the benefits of each network can not be used by the other. In other words connections from one network can not be scheduled to the other. The two solutions must independently render maps of the Internet based on the same customer base. Logging and reporting are separate and potentially in independent formats. Maintenance tasks are taking place on the two independently systems and result in duplicate work and effort.

7. Description of the Invention

The WAN traffic management solution (in the form of an intelligent DNS server and POP side probes) is shared between both the Content Provider and the Content Distribution Network (CDN) with the CDN taking responsibility for it. With this approach a single Traffic Management solution is managed on behalf of many customers. The customers do not have to each bring this experts in house. Finally a single map of the Internet needs to be rendered for latency instead of the independent maps maintained when each Content Provider ran their own traffic management solution.

Content Providers are invited into the CDN as Virtual Members. The hostname that is configured for Content Provider is only directed at their locations, as long as their locations are available. In the event that all of the Content Providers locations fail, the CDN nodes can then be used to serve up some fraction of the main sites functionality avoiding unserved pages. Embedded or static content will be served from the CDN but could also be served by the Content Provider if it is determined by the Traffic Manager to be best suited to do so. This will often be the case when users within the content provider need to access the site or if the Content Provider deploys in a new network before the CDN. With independent Traffic Management solution this mixing of traffic can not take place.

By developing a single NetProbe interface that can be deployed at either a CDN or Content Provider node. The information about the Node can then be reported back to a single Traffic Management Solution. The NetProbes regardless of location also use the same logging and reporting mechanisms. Also a single NetProbe can be used as a latency reference point for multiple customers on the same network, eliminating the need to deploy one for each customer.

(Attach the additional pages)

INVENTOR(S) All contributors must sign below.

Signature

Print Name

Date

Signature

Print Name

Date

Signature

Print Name

Date

Signature

Print Name

Date

WITNESSES:

Date invention first explained
to and understood by me: _____, 19__

Signature

Print Name

Date

Date invention first explained
to and understood by me: _____, 19__

Signature

Print Name

Date

EACH ADDITIONAL PAGE SHOULD BE SIGNED AND DATED AT THE
BOTTOM BY THE INVENTOR(S) AND WITNESS(ES).

Please forward both parts of this form to Greg T. Sueoka.

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