



US010069936B2

(12) **United States Patent**
Shribman et al.

(10) **Patent No.:** **US 10,069,936 B2**

(45) **Date of Patent:** **Sep. 4, 2018**

(54) **SYSTEM PROVIDING FASTER AND MORE EFFICIENT DATA COMMUNICATION**

(71) Applicant: **HOLA NEWCO LTD.**, Netanya (IL)

(72) Inventors: **Derry Shribman**, Tel Aviv (IL); **Ofer Vilenski**, Moshav Hadar Am (IL)

(73) Assignee: **HOLA NEWCO LTD.**, Netanya (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 485 days.

(21) Appl. No.: **14/025,109**

(22) Filed: **Sep. 12, 2013**

(65) **Prior Publication Data**

US 2014/0019514 A1 Jan. 16, 2014

Related U.S. Application Data

(62) Division of application No. 12/836,059, filed on Jul. 14, 2010, now Pat. No. 8,560,604.
(Continued)

(51) **Int. Cl.**

H04L 29/06 (2006.01)

H04L 29/08 (2006.01)

H04L 12/24 (2006.01)

(52) **U.S. Cl.**

CPC **H04L 67/42** (2013.01); **H04L 41/046** (2013.01); **H04L 67/1002** (2013.01);
(Continued)

(58) **Field of Classification Search**

CPC **H04L 67/42**; **H04L 41/046**; **H04L 67/1002**
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,922,494 A 11/1975 Cooper et al.

4,937,781 A 6/1990 Lee et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CN 101075242 A 11/2007

CN 101179389 A 5/2008

(Continued)

OTHER PUBLICATIONS

Notice of Preliminary Rejection in KR Application No. 10-2012-7011711 dated Jul. 15, 2016.

(Continued)

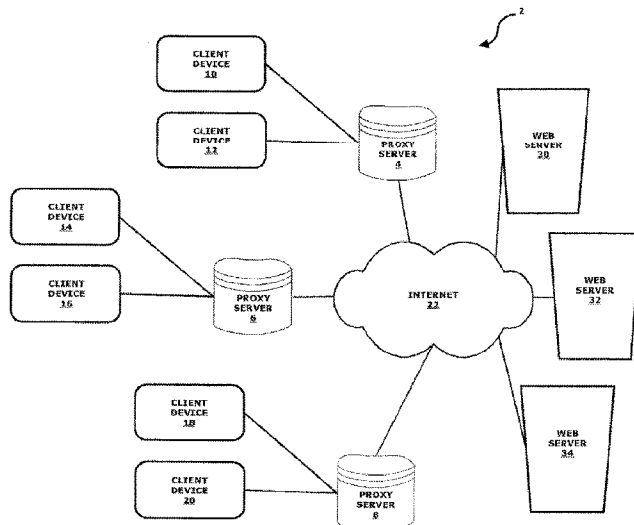
Primary Examiner — Minh Chau Nguyen

(74) *Attorney, Agent, or Firm* — May Patents Ltd.

(57) **ABSTRACT**

A system designed for increasing network communication speed for users, while lowering network congestion for content owners and ISPs. The system employs network elements including an acceleration server, clients, agents, and peers, where communication requests generated by applications are intercepted by the client on the same machine. The IP address of the server in the communication request is transmitted to the acceleration server, which provides a list of agents to use for this IP address. The communication request is sent to the agents. One or more of the agents respond with a list of peers that have previously seen some or all of the content which is the response to this request (after checking whether this data is still valid). The client then downloads the data from these peers in parts and in parallel, thereby speeding up the Web transfer, releasing congestion from the Web by fetching the information from multiple sources, and relieving traffic from Web servers by offloading the data transfers from them to nearby peers.

34 Claims, 15 Drawing Sheets



Related U.S. Application Data

(60) Provisional application No. 61/249,624, filed on Oct. 8, 2009.

(52) **U.S. Cl.**
 CPC **H04L 67/108** (2013.01); **H04L 67/1023** (2013.01); **H04L 67/1063** (2013.01); **H04L 67/22** (2013.01); **H04L 67/2814** (2013.01); **H04L 67/2819** (2013.01); **H04L 67/02** (2013.01)

(58) **Field of Classification Search**
 USPC 709/201–203, 207
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,758,195 A	5/1998	Balmer	
6,061,278 A	5/2000	Kato et al.	
6,173,330 B1	1/2001	Guo et al.	
6,466,470 B1	10/2002	Chang	
7,120,666 B2	10/2006	McCanne et al.	
7,203,741 B2	4/2007	Marco et al.	
7,558,942 B1	7/2009	Chen et al.	
7,865,585 B2*	1/2011	Samuels	H04L 67/2842 709/217
7,970,835 B2	6/2011	St. Jacques	
8,171,101 B2	5/2012	Gladwin et al.	
8,479,251 B2	7/2013	Feinleib et al.	
8,499,059 B2	7/2013	Stoyanov	
8,769,035 B2	7/2014	Resch et al.	
8,832,179 B2	9/2014	Owen et al.	
2001/0033583 A1	10/2001	Rabenko et al.	
2002/0007413 A1*	1/2002	Garcia-Luna-Aceves	G06F 12/1483 709/229
2002/0065930 A1	5/2002	Rhodes	
2002/0120874 A1	8/2002	Shu et al.	
2002/0123895 A1	9/2002	Potekhin	
2002/0133621 A1	9/2002	Marco et al.	
2003/0009518 A1*	1/2003	Harrow	H04L 47/10 709/203
2003/0009583 A1	1/2003	Chan et al.	
2003/0074403 A1*	4/2003	Harrow	G06F 17/30206 709/203
2003/0115364 A1	6/2003	Shu et al.	
2003/0174648 A1	9/2003	Wang et al.	
2003/0200307 A1*	10/2003	Raju	G06F 12/1483 709/224
2003/0204602 A1	10/2003	Hudson	
2003/0210694 A1*	11/2003	Jayaraman	H04L 67/1008 370/392
2004/0088646 A1	5/2004	Yeager et al.	
2004/0107242 A1	6/2004	Vert et al.	
2004/0264506 A1	12/2004	Furukawa	
2006/0212584 A1*	9/2006	Yu	G06F 17/30902 709/227

2007/0073878 A1*	3/2007	Issa	H04L 67/104 709/225
2007/0156855 A1	7/2007	Johnson	
2007/0226810 A1	9/2007	Hotti	
2007/0239655 A1	10/2007	Agetsuma et al.	
2008/0008089 A1	1/2008	Bornstein et al.	
2008/0025506 A1	1/2008	Muraoka	
2008/0109446 A1	5/2008	Wang	
2008/0109466 A1	5/2008	Xin	
2008/0125123 A1	5/2008	Dorenbosch et al.	
2008/0222291 A1	9/2008	Weller et al.	
2008/0235391 A1	9/2008	Painter et al.	
2009/0217122 A1	8/2009	Yokokawa et al.	
2009/0279559 A1	11/2009	Wong et al.	
2009/0319502 A1*	12/2009	Chalouhi	H04L 67/104
2010/0066808 A1	3/2010	Tucker et al.	
2010/0085977 A1	4/2010	Khalid et al.	
2010/0094970 A1	4/2010	Zuckerman et al.	
2010/0115063 A1	6/2010	Gladwin et al.	
2010/0154044 A1	6/2010	Manku	
2010/0235438 A1	9/2010	Narayanan et al.	
2010/0293555 A1	11/2010	Vepsalainen	
2010/0329270 A1	12/2010	Asati et al.	
2011/0087733 A1	4/2011	Shribman et al.	
2011/0314347 A1	12/2011	Nakano et al.	
2012/0099566 A1	4/2012	Laine et al.	
2012/0124239 A1	5/2012	Shribman et al.	
2012/0254456 A1	10/2012	Visharam et al.	
2013/0166768 A1	6/2013	Gouache et al.	
2013/0201316 A1	8/2013	Binder et al.	
2013/0272519 A1	10/2013	Huang	
2014/0082260 A1	3/2014	Oh et al.	
2014/0301334 A1	10/2014	Labranche et al.	
2015/0033001 A1	1/2015	Ivanov	
2015/0067819 A1	3/2015	Shribman et al.	
2015/0358648 A1	12/2015	Limberg	
2016/0021430 A1	1/2016	LaBosco et al.	

FOREIGN PATENT DOCUMENTS

EP	0948176 A2	10/1999
EP	2597869 A1	5/2015
JP	2007-280388 A	10/2007
JP	2007280388	10/2007
KR	1020090097034	9/2009
RU	2343536 C2	10/2009
WO	2000/018078 A1	3/2000
WO	2010090562 A1	8/2010
WO	2015034752 A1	3/2015

OTHER PUBLICATIONS

R. Fielding et al, RFC 2616: Hypertext Transfer Protocol—HTTP/1.1, Jun. 1999, retrieved from the Internet <http://rhc-editor.org> [retrieved Apr. 15, 2002] (114 pages).
 “On the Leakage of Personally Identifiable Information via Online Social Networks”—Wills et al, AT&T, Apr. 2009 <http://www2.research.att.com/~hala/papers/wosn09.pdf>.

* cited by examiner

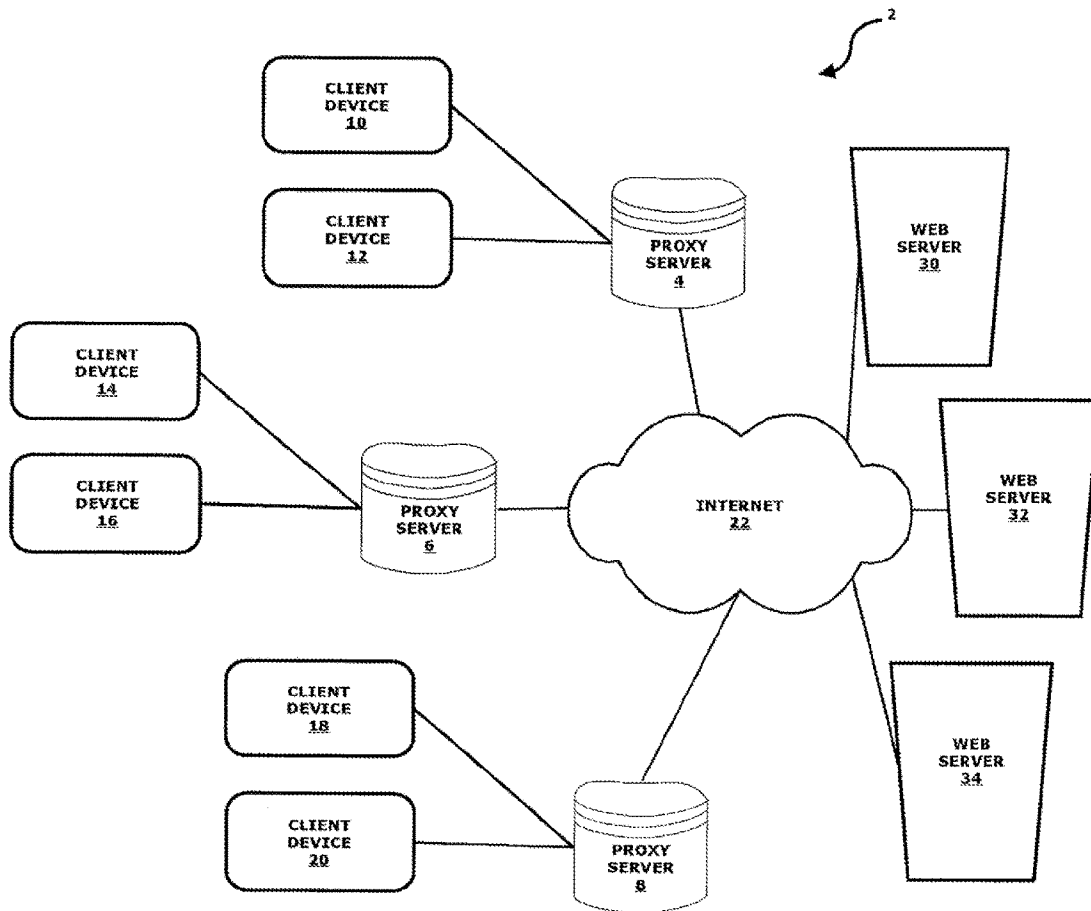


FIG. 1

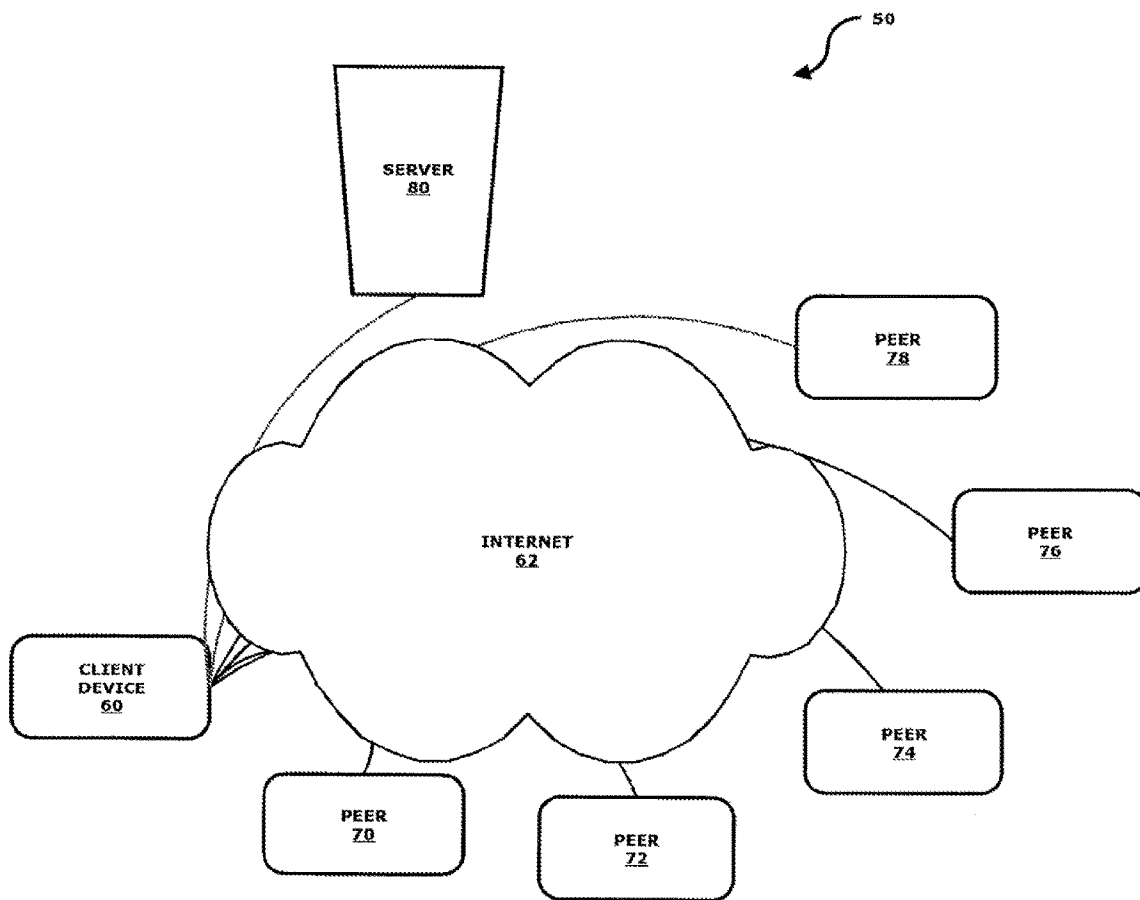


FIG. 2

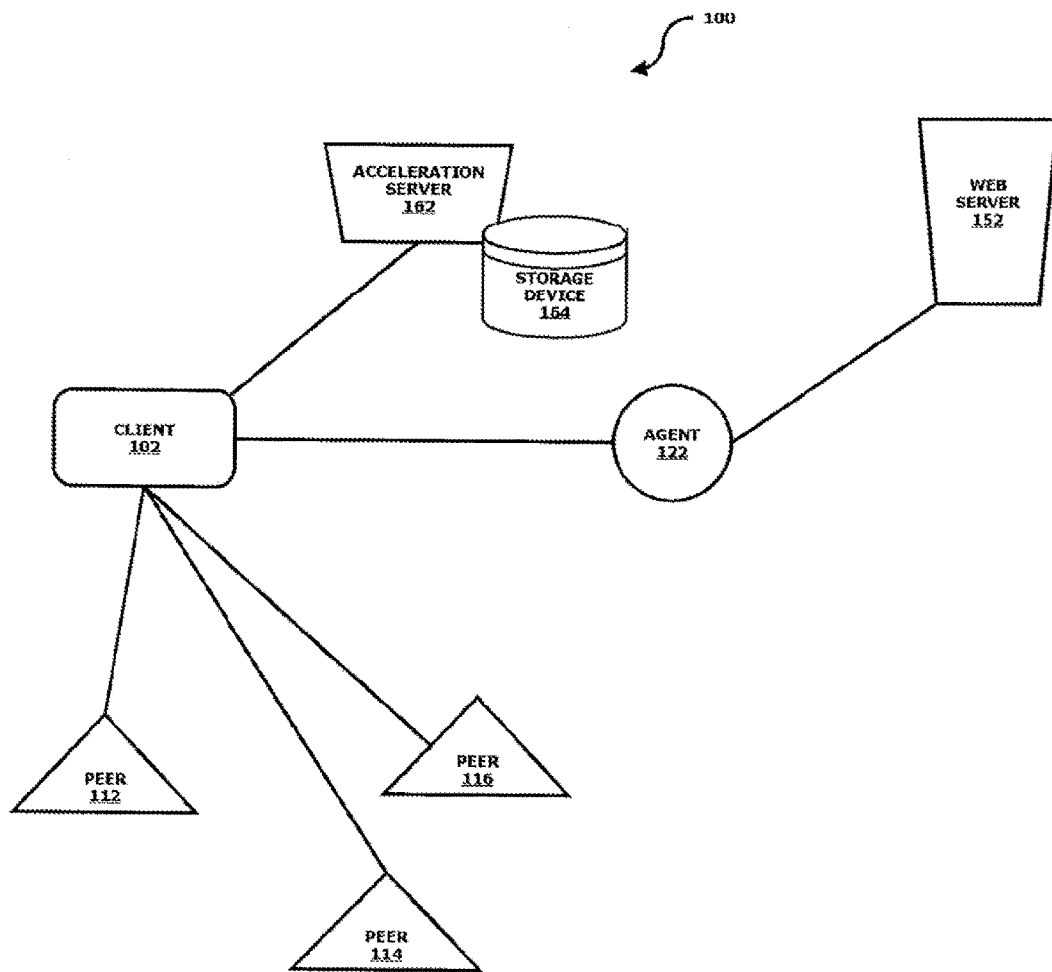


FIG. 3

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.