

EXHIBIT

1003



US007406048B2

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

(10) **Patent No.:** **US 7,406,048 B2**
(45) **Date of Patent:** **Jul. 29, 2008**

(54) **TOOLS AND TECHNIQUES FOR DIRECTING PACKETS OVER DISPARATE NETWORKS**

(76) Inventors: **Sanchaita Datta**, 4540 S. Jupiter Dr., Salt Lake City, UT (US) 84124; **Bhaskar Ragula**, 4540 S. Jupiter Dr., Salt Lake City, UT (US) 84124

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 821 days.

(21) Appl. No.: **10/911,846**

(22) Filed: **Aug. 3, 2004**

(65) **Prior Publication Data**

US 2005/0008017 A1 Jan. 13, 2005

Related U.S. Application Data

(63) Continuation-in-part of application No. 10/034,197, filed on Dec. 28, 2001.

(60) Provisional application No. 60/259,269, filed on Dec. 29, 2000.

(51) **Int. Cl.**
H04L 12/64 (2006.01)

(52) **U.S. Cl.** **370/238; 370/252; 370/352**

(58) **Field of Classification Search** **370/238, 370/252, 352**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,398,012 A	3/1995	Derby et al.
5,420,862 A	5/1995	Perlman
5,473,599 A	12/1995	Li et al.
5,737,526 A	4/1998	Periasamy et al.
5,898,673 A	4/1999	Riggan et al.
5,948,069 A	9/1999	Kitai et al.

6,016,307 A *	1/2000	Kaplan et al.	370/238
6,253,247 B1	6/2001	Bhaskar et al.	
6,295,276 B1	9/2001	Datta et al.	
6,339,595 B1	1/2002	Rekhter et al.	
6,438,100 B1	8/2002	Halpern et al.	
6,449,259 B1	9/2002	Allain et al.	
6,456,594 B1	9/2002	Kaplan et al.	
6,493,341 B1	12/2002	Datta et al.	
6,493,349 B1	12/2002	Casey	
7,088,716 B2 *	8/2006	Sugai et al.	370/392
2002/0087724 A1	7/2002	Datta et al.	

OTHER PUBLICATIONS

T. Liao et al., "Using multiple links to interconnect LANs and public circuit switched data networks," Proc. Int. Conference on Communications Systems: Towards Global Integration, vol. 1, Singapore, 59 Nov. 1990, pp. 289-293.

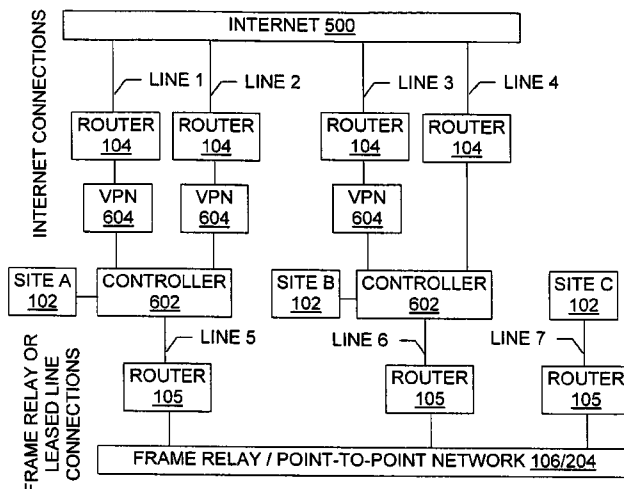
(Continued)

Primary Examiner—Melvin Marcelo
(74) *Attorney, Agent, or Firm*—Ogilvie Law Firm

(57) **ABSTRACT**

Methods, configured storage media, and systems are provided for communications using two or more disparate networks in parallel to provide load balancing across network connections, greater reliability, and/or increased security. A controller provides access to two or more disparate networks in parallel, through direct or indirect network interfaces. When one attached network fails, the failure is sensed by the controller and traffic is routed through one or more other disparate networks. When all attached disparate networks are operating, one controller preferably balances the load between them.

24 Claims, 6 Drawing Sheets

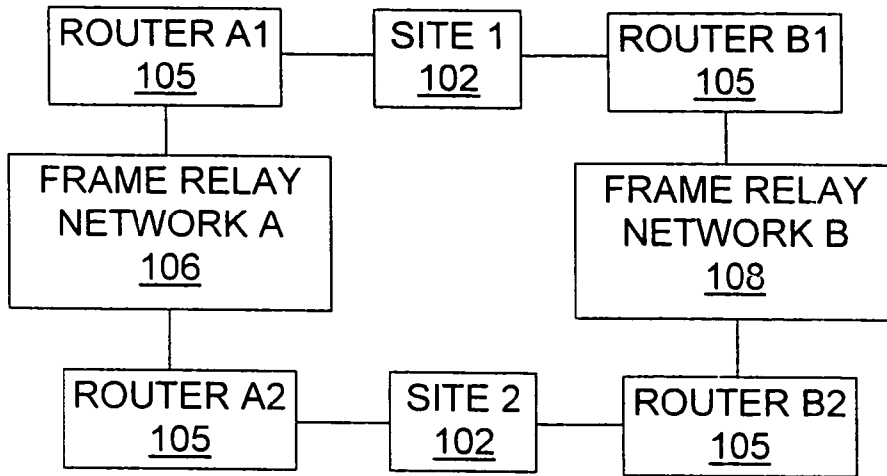


OTHER PUBLICATIONS

Press release from www.coyotepoint.com, Sep. 8, 1997.
Network Address Translation Technical Discussion, from safety.net; no later than May 7, 1999.
Higginson et al., "Development of Router Clusters to Provide Fast Failover in IP Networks," from www.asia-pacific.digital.com; no later than Sep. 29, 1998.
Pages from www.navpoint.com; no later than Dec. 24, 2001.
"The Basic Guide to Frame Relay Networking", pp. 1-85, copyright date 1998.
"NNI & UNI", pp. 1-2, Nov. 16, 2001.
"Disaster Recovery for Frame Relay Networks", pp. 1-14, no later than Dec. 7, 2001.

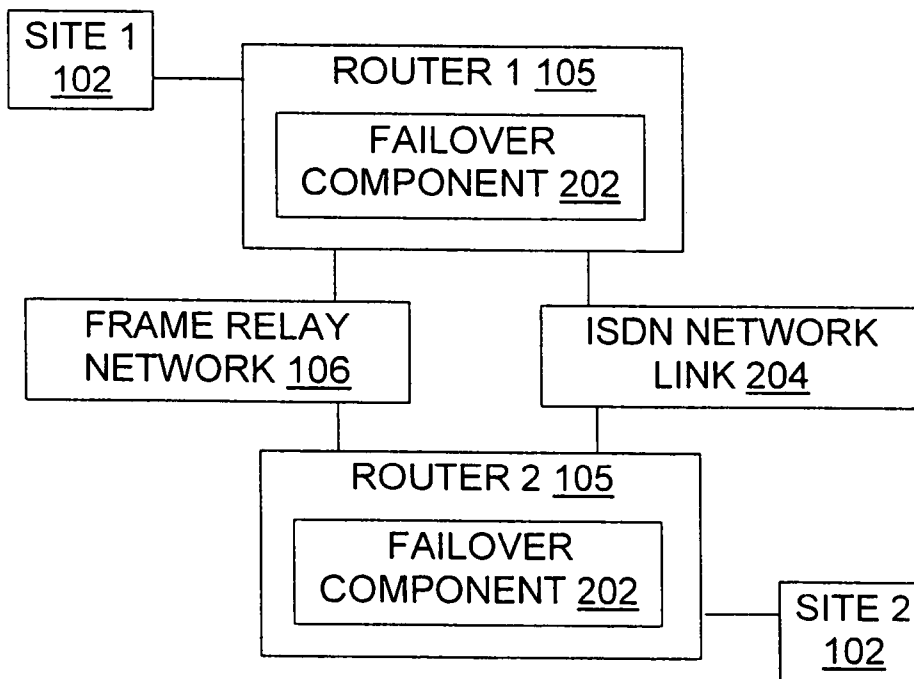
T. Nolle, "Watching Your Back", pp. 1-3, Nov. 1, 1999.
Multi-Attached and Multi-Homed Dedicated Access, pp. 1-5, no later than Dec. 8, 2001.
Feibel, "Internetwork Link," Novel's® Complete Encyclopedia of Networking, copyright date 1995.
Tanenbaum, Computer Networks (3rd Ed.), pp. 396-406; copyright date 1996.
Wexler, "Frame Relay and IP VPNs: Complete Ore Coexist?", from www.bcr.com; Jul. 1999.
B. Gleeson et al., "A Framework for IP Based Virtual Private Networks," RFC 2764 (Feb. 2000).

* cited by examiner



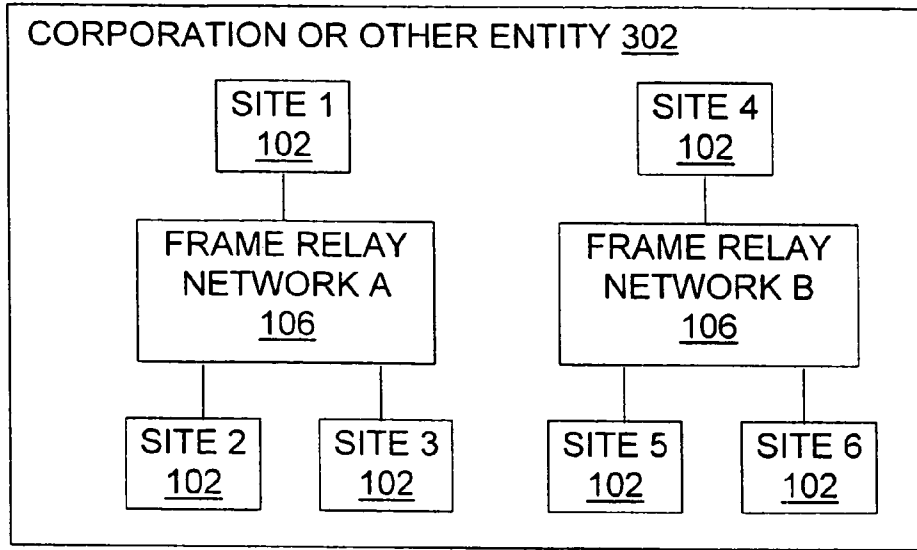
(PRIOR ART)

Fig. 1



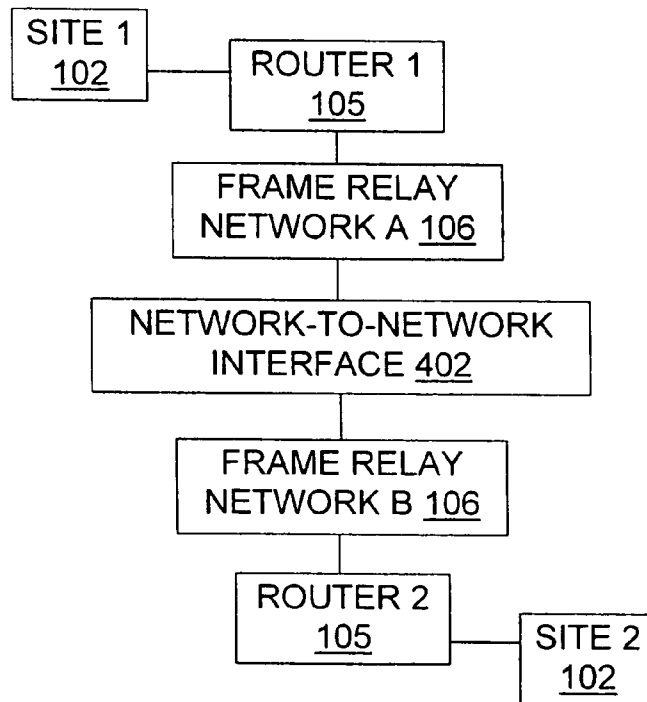
(PRIOR ART)

Fig. 2



(PRIOR ART)

Fig. 3



(PRIOR ART)

Fig. 4

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.