

US007953857B2

US 7,953,857 B2

May 31, 2011

# (12) United States Patent

Short et al.

# (54) SYSTEMS AND METHODS FOR DYNAMIC DATA TRANSFER MANAGEMENT ON A PER SUBSCRIBER BASIS IN A COMMUNICATIONS NETWORK

(75) Inventors: **Joel E. Short**, Los Angeles, CA (US); **Frederic Delley**, Redwood City, CA

(US); **Mark F. Logan**, Santa Monica, CA (US); **Daniel Toomey**, Moorpark,

CA (US)

(73) Assignee: Nomadix, Inc., Agoura Hills, CA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 12/771,915

(22) Filed: Apr. 30, 2010

(65) Prior Publication Data

US 2010/0208743 A1 Aug. 19, 2010

#### Related U.S. Application Data

- (63) Continuation of application No. 09/693,481, filed on Oct. 20, 2000, now Pat. No. 7,739,383.
- (60) Provisional application No. 60/161,182, filed on Oct. 22, 1999.
- (51) **Int. Cl.** *G06F 15/173* (2006.01)
- (52) **U.S. Cl.** ....... **709/226**; 709/227; 709/232; 709/240; 370/348: 370/352

See application file for complete search history.

#### (56) References Cited

(10) **Patent No.:** 

(45) Date of Patent:

#### U.S. PATENT DOCUMENTS

5,113,499 A	Ĺ	sķc	5/1992	Ankney et al	340/5.74		
5,446,735 A	Ĺ		8/1995	Tobagi et al.			
5,708,654 A	L		1/1998	Arndt et al.			
5,708,780 A	L		1/1998	Levergood et al.			
5,787,483 A	Ĺ		7/1998	Jam et al.			
5,793,978 A	L	ajk	8/1998	Fowler	709/226		
5,802,310 A	L		9/1998	Rajaraman			
5,978,387 A	L	*	11/1999	Sherman	370/468		
6,035,405 A	L		3/2000	Gage et al.			
6,078,953 A	L		6/2000	Vaid et al.			
6,130,892 A	L		10/2000	Short et al.			
(Continued)							

#### FOREIGN PATENT DOCUMENTS

EP 0 742 657 5/1996 (Continued)

### OTHER PUBLICATIONS

Nov. 23, 2009 Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

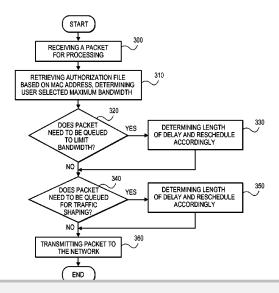
#### (Continued)

Primary Examiner — Liangche A Wang (74) Attorney, Agent, or Firm — Knobbe, Martens, Olson & Bear, LLP

#### (57) ABSTRACT

A method of dynamically managing transmission of packets is disclosed. The method, in some embodiments, may comprise establishing a network session over a communication link between a network and a user device of a user and associating a data transmission parameter with the user device. The method may further comprise receiving a packet and calculating a delay period associated with the packet based on the data transmission parameter and delaying transmission of the packet based on the delay period.

#### 20 Claims, 8 Drawing Sheets





#### U.S. PATENT DOCUMENTS

	-		~4
6,194,992		2/2001	Short et al.
6,232,764		5/2001	Rettig et al.
6,256,674		7/2001	Manning et al 709/232
6,307,836	B1 *	10/2001	Jones et al 370/230
6,310,886	В1	10/2001	Barton
6,609,153	B1	8/2003	Salkewicz
6,618,355	B1 *	9/2003	Gulliford et al 370/230
6,636,894	В1	10/2003	Short et al.
6,654,808	B1 *	11/2003	Chuah 709/227
6,735,633	B1	5/2004	Welch et al.
6,738,371	B1 *	5/2004	Ayres 370/352
6,789,110	B1	9/2004	Short et al.
6,795,852	B1	9/2004	Kleinrock et al.
6,810,426	B2	10/2004	Mysore et al.
6,826,694	B1	11/2004	Dutta et al.
6,857,009	B1	2/2005	Ferrieria et al.
6,868,399	B1	3/2005	Short et al.
7,020,082	B2	3/2006	Bhagavath et al.
7,088,727		8/2006	Short et al.
7,117,526		10/2006	Short et al.
7,194,554		3/2007	Short et al.
7,197,556		3/2007	Short et al.
7,216,152		5/2007	Short et al.
7,554,995		6/2009	Short et al.
2004/0073704		4/2004	Paunikar et al.
2006/0239254	A1	10/2006	Short et al.
2008/0148383	A1	6/2008	Pitchaikani et al.
2009/0024745		1/2009	Short et al.
2005,002-17-15	2 1 1	1,2000	DHOIL CLUI.

#### FOREIGN PATENT DOCUMENTS

EP	0 767 595 A	4/1997
EP	0 573 739 A	12/1997
EP	0 873 037 A1	10/1998
EP	0 901 301 A	3/1999
GB	2 311 439 A	9/1997
WO	WO/9702687	1/1997
WO	WO 97/22936 A	6/1997
WO	WO 98/16036 A	4/1998
WO	WO 98/16036 A1	4/1998
WO	WO 98/54868 A1	12/1998

#### OTHER PUBLICATIONS

Dec. 21, 2006 Final Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

Aug. 21, 2006 Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

Mar. 1, 2006 Final Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

May 3, 2005 Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

Sep. 28,2004 Final Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20,2006.

Mar. 17, 2004 Office Action in U.S. Appl. No. 09/693,481, filed Oct. 20, 2006.

Rupp, et al., "Index: A Platform for Determining How People Value the Quality of Their Internet Access", http://www.INDEX.Berkeley, EDU/reports/98-010P, May 1998.

Complaint for Patent Infringement of U.S. Patent Nos. 6,130,892; 7,088,727; 6,636,894; 6,868,399; 6,789,110 and 7,554,995; Nov. 17, 2009.

Plaintiff Nomadix, Inc.'s Proposed Claim Construction Statement; *Nomadix, Inc.* vs. *Second Rule LLC*; Civil Action CV-Jul. 1946, USDC, CD CA.; May 23, 2008; p. 1-183.

Second Rule LLC's Response to Nomadix, Inc.'s Proposed Claim Construction Statement, *Nomadix, Inc.* vs. *Second Rule LLC.*; Civil Action CV-07-1946, USDC, CD CA.; Jun. 6, 2008; p. 1-74.

[Proposed] Joint Claim Construction Statement, *Nomadix, Inc.* vs. *Second Rule LLC*; Civil Action CV-07-1946, USDC, CD CA.; Jul. 2, 2008; pp. 1-105.

Complaint for Patent Infringement of U.S. Patent Nos. 6,130,892; 7,088,727; 6,636,894; 6,857,009 and 6,868,399; Mar. 23, 2007.

PCT International Search Report dated Mar. 14, 2001 relating to PCT/US 009/29172.

Partial European Search Report; European Patent Application No. EP 07 10 0293; dated Dec. 2, 2009; p. 1-4.

Decision on Appeal mailed Nov. 3, 2009 for U.S. Appl. No. 09/693,481, filed Dec. 20, 2000.

W. Richard Stevens, "TCP/IP Illustrated vol. 1: The Protocols," 1994, 53-62, Addison Wesley.

Andrew S. Tanenbaum, "Computer Nextworks," 1996, 420-42, 3<sup>rd</sup> ed.

Past, present, and future office actions, amendments, arguments, and other relevant documents or materials in the file history of co-pending U.S. Appl. No. 09/693,481, filed Oct. 20, 2006, entitled Systems and Method for Dynamic Bandwidth Management on a Per Subscriber Basis in a Communications Network.

Past, present, and future office actions, amendments, arguments, and other relevant documents or materials in the file history of co-pending U.S. Appl. No. 12/579,820, filed Oct. 15, 2009, entitled Systems and Method for Dynamic Bandwidth Management on a Per Subscriber Basis in a Communications Network.

Kauser et al., A Charging Model for Sessions on the Internet, May 26, 1999, European conference on multimedia applications, services and techniques, v1629, p. 246-261.

Kalkbrenner et al., Quality of Service (QoS) in Distributed Hypermedia-Systems, Jul. 1995, IEEE, v10-8186-7180, 529-534. Richards et al., Mapping User Level QOS form a Single Parameter, 1998, p. 1-15.

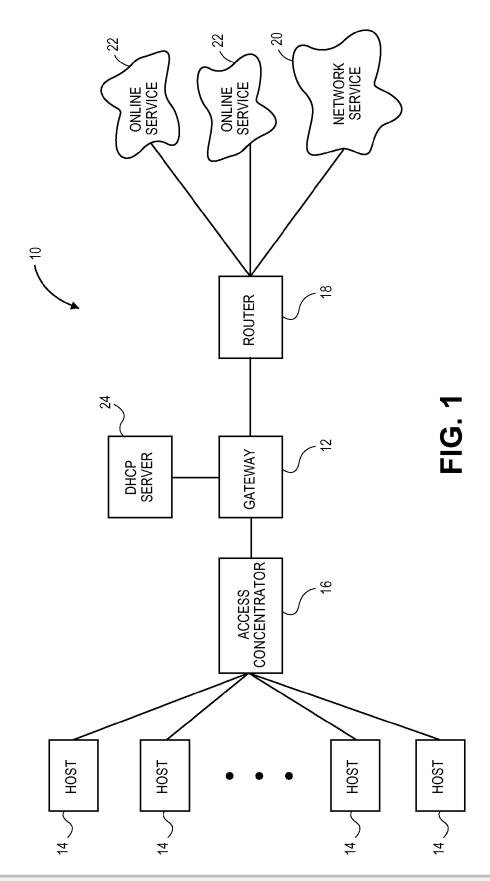
Hluchyj, M.G., et al.: "Queueing disciplines for integrated fast packet networks", Discovering a New World of Communications. Chicago, Jun. 14-18, 1992. Bound Together with B0190700, vol. 3, Proceedings of the International Conference on Communications, New York, IEEE, US, vol. 4, Jun. 14, 1992, pp. 990-996, XP010061960, ISBN: 0-7803-0599-X.

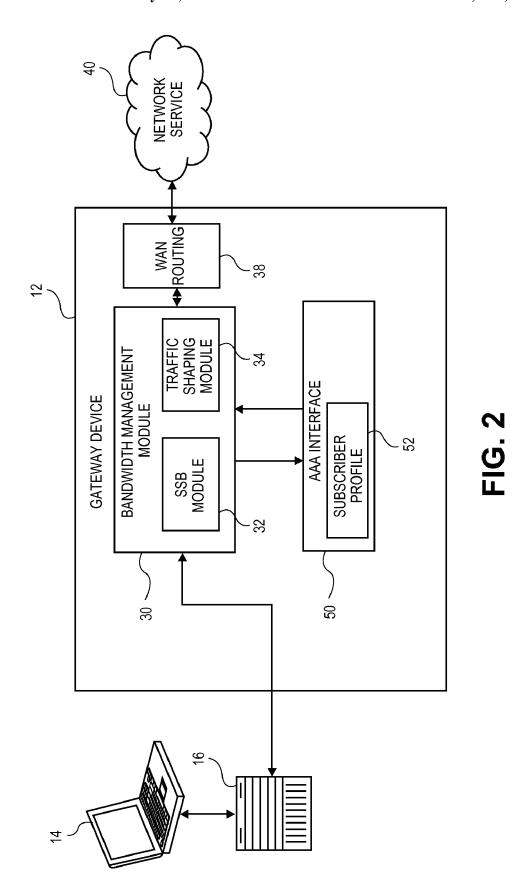
Office Action dated Feb. 7, 2011, European Patent Application No. 07100292.7.

\* cited by examiner

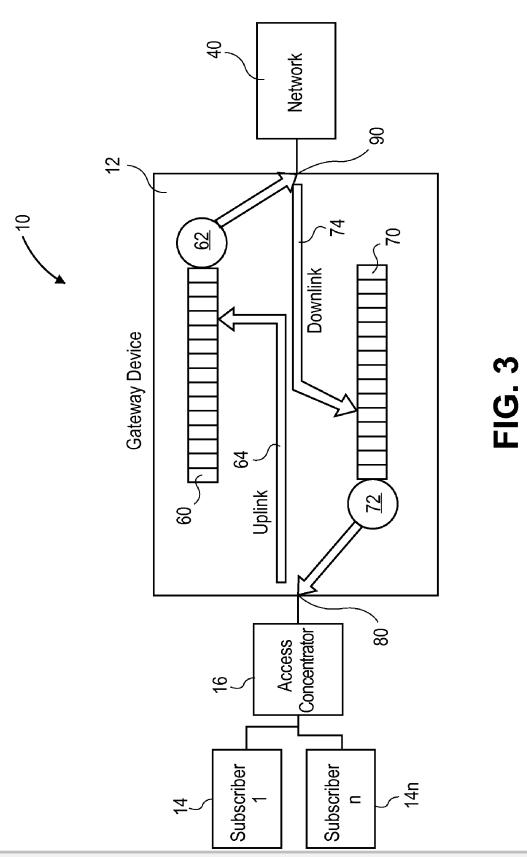


May 31, 2011











# DOCKET

# 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.

