

EXHIBIT 4



US007945544B2

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

(10) **Patent No.:** **US 7,945,544 B2**
(45) **Date of Patent:** **May 17, 2011**

(54) **SIMILARITY-BASED ACCESS CONTROL OF DATA IN A DATA PROCESSING SYSTEM**

(75) Inventors: **David A. Farber**, Ojai, CA (US);
Ronald D. Lachman, Northbrook, IL (US)

(73) Assignees: **Kinetech, Inc.**, Studio City, CA (US);
Level 3 Communications, LLC, Broomfield, CO (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 624 days.

(21) Appl. No.: **11/980,688**

(22) Filed: **Oct. 31, 2007**

(65) **Prior Publication Data**

US 2008/0065635 A1 Mar. 13, 2008

Related U.S. Application Data

(60) Continuation of application No. 11/724,232, filed on Mar. 15, 2007, which is a continuation of application No. 11/017,650, filed on Dec. 22, 2004, which is a continuation of application No. 09/987,723, filed on Nov. 15, 2001, now Pat. No. 6,928,442, which is a continuation of application No. 09/283,160, filed on Apr. 1, 1999, now Pat. No. 6,415,280, which is a division of application No. 08/960,079, filed on Oct. 24, 1997, now Pat. No. 5,978,791, which is a continuation of application No. 08/425,160, filed on Apr. 11, 1995, now abandoned, application No. 11/980,688, which is a continuation of application No. 10/742,972, filed on Dec. 23, 2003, which is a division of application No. 09/987,723, which is a continuation of application No. 09/283,160, which is a division of application No. 08/960,079, which is a continuation of application No. 08/425,160.

(51) **Int. Cl.**
G06F 17/00 (2006.01)

(52) **U.S. Cl.** **707/698; 707/821; 707/822**

(58) **Field of Classification Search** **707/609, 707/821 828, 697 698**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,668,647 A 6/1972 Evangelisti et al.
3,835,260 A 9/1974 Prescher et al.

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0 268 069 A2 5/1988

(Continued)

OTHER PUBLICATIONS

Fowler, et al. "A User-Level Replicated File System," AT&T Bell Laboratories Technical Memorandum 0112670-930414-05. Apr. 1993, and USENIX 1993 Summer Conference Proceedings, Cincinnati, OH, Jun, 1993.

(Continued)

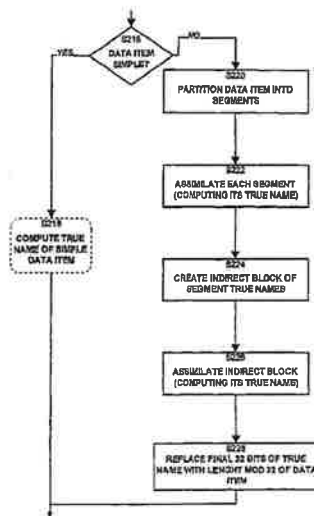
Primary Examiner — Khanh B Pham

(74) *Attorney, Agent, or Firm* — Davidson Berquist Jackson & Gowdey, LLP; Brian Sirtzky

(57) **ABSTRACT**

Similarity of data items is determined by analyzing corresponding segments of the data items. A function is applied to each segment of a data item and the output of that function is compared to the output of the same function applied to a corresponding segment of another data item. A function may be applied to the output of the functions. The functions may be hash or message digest functions.

56 Claims, 31 Drawing Sheets



US 7,945,544 B2

Page 2

U.S. PATENT DOCUMENTS							
4,096,568	A	6/1978	Bennett et al.	5,361,356	A	11/1994	Clark et al.
4,215,402	A	7/1980	Mitchell et al.	5,371,897	A	12/1994	Brown et al.
4,221,003	A	9/1980	Chang et al.	5,375,206	A	12/1994	Hunter et al.
4,290,105	A	9/1981	Cichelli et al.	5,384,565	A	1/1995	Cannon
4,376,299	A	3/1983	Rivest	5,394,555	A	2/1995	Hunter et al.
4,405,829	A	9/1983	Rivest et al.	5,403,639	A	4/1995	Belsan et al.
4,412,285	A	10/1983	Neches et al.	5,404,508	A	4/1995	Konrad et al.
4,414,624	A	11/1983	Summer, Jr. et al.	5,438,508	A	8/1995	Wyman
4,441,155	A	4/1984	Fletcher et al.	5,442,343	A	8/1995	Cato et al.
4,464,713	A	8/1984	Benhase et al.	5,448,668	A	9/1995	Perelson et al. 714/21
4,490,782	A	12/1984	Dixon et al.	5,448,718	A	9/1995	Cohn et al.
4,558,413	A	12/1985	Schmidt et al.	5,452,447	A	9/1995	Nelson et al.
4,571,700	A	2/1986	Emry, Jr. et al.	5,454,000	A	9/1995	Dorliman 714/54
4,577,293	A	3/1986	Matick et al.	5,454,039	A	9/1995	Coppersmith et al.
4,642,764	A	2/1987	Auslander	5,459,860	A	10/1995	Burnett
4,642,793	A	2/1987	Meaden	5,465,365	A	11/1995	Winterbottom
4,658,093	A	4/1987	Hellman	5,467,471	A	11/1995	Bader
4,675,810	A	6/1987	Gruner et al.	5,475,826	A	12/1995	Fischer
4,691,299	A	9/1987	Rivest et al.	5,479,654	A	12/1995	Squibb 707/695
4,725,945	A	2/1988	Kronstadt et al.	5,491,817	A	2/1996	Gopal et al.
4,773,039	A	9/1988	Zamora	5,499,294	A	3/1996	Friedman
4,821,184	A	4/1989	Clancy et al.	5,504,879	A	4/1996	Eisenberg et al.
4,887,235	A	12/1989	Holloway et al.	5,530,757	A	6/1996	Krawczyk 713/188
4,888,681	A	12/1989	Barnes et al.	5,537,585	A	7/1996	Blickenstaff et al.
4,914,571	A	4/1990	Baratz et al.	5,542,087	A	7/1996	Neimat et al.
4,914,586	A	4/1990	Swinehart et al.	5,548,724	A	8/1996	Akizawa et al.
4,922,414	A	5/1990	Holloway et al.	5,553,143	A	9/1996	Ross et al.
4,922,417	A	5/1990	Churn et al.	5,568,181	A	10/1996	Greenwood et al.
4,937,863	A	6/1990	Robert et al.	5,581,615	A	12/1996	Stern
4,949,302	A	8/1990	Arnold et al.	5,581,758	A	12/1996	Burnett
4,953,209	A	8/1990	Ryder, Sr. et al.	5,581,764	A	12/1996	Fitzgerald et al.
4,972,367	A	11/1990	Burke	5,583,995	A	12/1996	Gardner et al.
5,014,192	A	5/1991	Mansfield et al.	5,588,147	A	12/1996	Neeman et al.
5,025,421	A	6/1991	Cho	5,596,744	A	1/1997	Dao et al.
5,032,979	A	7/1991	Hecht et al.	5,600,834	A	2/1997	Howard
5,047,918	A	9/1991	Schwartz et al.	5,604,803	A	2/1997	Aziz
5,050,074	A	9/1991	Marca	5,604,892	A	2/1997	Nuttall et al.
5,050,212	A	9/1991	Dyson	5,630,067	A	5/1997	Kindell et al.
5,057,837	A	10/1991	Colwell et al.	5,632,031	A	5/1997	Veissaropoulos et al.
5,077,658	A	12/1991	Bendert et al.	5,638,443	A	6/1997	Stefik et al.
5,084,815	A	1/1992	Mazzario	5,640,564	A	6/1997	Hamilton et al.
5,117,351	A	5/1992	Miller	5,649,196	A	7/1997	Woodhill et al.
5,129,081	A	7/1992	Kobayashi et al.	5,677,952	A	10/1997	Blakley, III et al.
5,129,082	A	7/1992	Tirfing et al.	5,678,038	A	10/1997	Dockter et al.
5,144,667	A	9/1992	Pogue, Jr. et al.	5,678,046	A	10/1997	Cahill et al.
5,163,147	A	11/1992	Orita	5,694,472	A	12/1997	Johnson et al. 713/189
5,179,680	A	1/1993	Colwell et al.	5,694,596	A	12/1997	Campbell
5,182,799	A	1/1993	Tamura et al.	5,701,316	A	12/1997	Alferness et al.
5,199,073	A	3/1993	Scott	5,710,922	A	1/1998	Alley et al.
5,202,982	A	4/1993	Gramlich et al.	5,724,425	A	3/1998	Chang et al.
5,204,897	A	4/1993	Wyman	5,724,552	A	3/1998	Taoda
5,204,958	A	4/1993	Cheng et al.	5,742,807	A	4/1998	Masinter
5,204,966	A	4/1993	Wittenberg et al.	5,745,879	A	4/1998	Wyman
5,208,858	A	5/1993	Vollert et al.	5,757,913	A	5/1998	Bellare et al.
5,222,134	A	6/1993	Waite et al.	5,757,915	A	5/1998	Aucsmith et al.
5,230,051	A	7/1993	Quan	5,781,629	A	7/1998	Ilaber et al.
5,239,648	A	8/1993	Nukui	5,802,291	A	9/1998	Balick et al.
5,241,671	A	8/1993	Reed et al.	5,809,494	A	9/1998	Nguyen
5,247,620	A	9/1993	Fukuzawa et al.	5,826,049	A	10/1998	Ogata et al.
5,260,999	A	11/1993	Wyman	5,835,087	A	11/1998	Herz et al.
5,276,869	A	1/1994	Forrest et al.	5,864,683	A	1/1999	Boebert et al.
5,276,901	A	1/1994	Howell et al.	5,907,619	A	5/1999	Davis
5,287,499	A	2/1994	Nemes	5,907,704	A	5/1999	Gudmundson et al.
5,287,514	A	2/1994	Gram	5,940,504	A	8/1999	Griswold
5,297,279	A	3/1994	Bannon et al.	5,978,791	A	11/1999	Farber et al.
5,301,286	A	4/1994	Rajani	5,991,414	A	11/1999	Garay et al.
5,301,316	A	4/1994	Hamilton et al.	6,006,018	A	12/1999	Burnett et al.
5,317,693	A	5/1994	Cuenod et al.	6,134,603	A	10/2000	Jones et al.
5,321,841	A	6/1994	East et al.	6,135,646	A	10/2000	Kahn et al.
5,339,403	A	8/1994	Parker	6,415,280	B1	7/2002	Farber et al.
5,341,477	A	8/1994	Pitkin et al.	6,732,180	B1	5/2004	Ilale et al.
5,343,527	A	8/1994	Moore	6,816,872	B1	11/2004	Squibb 1/1
5,347,653	A	9/1994	Flynn et al.	6,928,442	B2	8/2005	Farber et al.
5,351,302	A	9/1994	Leighton et al.	2002/0052884	A1	6/2002	Farber et al.
5,357,440	A	10/1994	Talbot et al.	2002/0082999	A1	6/2002	Lee et al.
5,357,623	A	10/1994	Megory-Cohen	2003/0078888	A1	4/2003	Lec et al.
5,357,630	A	10/1994	Oprescu et al.	2003/0078889	A1	4/2003	Lee et al.
5,359,523	A	10/1994	Talbot et al.	2003/0095660	A1	5/2003	Lec et al.
				2004/0139097	A1	7/2004	Farber et al.

US 7,945,544 B2

Page 3

2005/0010792	A1	1/2005	Carpentier et al.
2005/0114296	A1	5/2005	Farber et al.
2007/0185848	A1	8/2007	Farber et al.
2008/0065635	A1	3/2008	Farber et al.
2008/0066191	A1	3/2008	Farber et al.
2008/0071855	A1	3/2008	Farber et al.
2008/0082551	A1	3/2008	Farber et al.

FOREIGN PATENT DOCUMENTS

EP	0 315 425	5/1989
EP	0 558 945	A2 9/1993
EP	0 566 967	A2 10/1993
EP	0592045	4/1994
EP	0631 226	A1 12/1994
EP	0 654 920	A2 5/1995
EP	0 658 022	A2 6/1995
GB	2294132	A 4/1996
JP	59058564	4/1984
JP	63-106048	5/1988
JP	63-273961	11/1988
JP	2-127755	5/1990
JP	05162529	6/1993
JP	06187384	A2 7/1994
JP	06348558	A 12/1994
WO	WO 92/20021	11/1992
WO	WO 94/06087	3/1994
WO	WO 94/20913	9/1994
WO	WO 95/01599	1/1995
WO	WO 97/43717	11/1997

OTHER PUBLICATIONS

Greene, D., et al., "Multi-Index Hashing for Information Retrieval", Nov. 20-22, 1994, Proceedings, 35th Annual Symp on Foundations of Computer Science, IEEE, pp. 722-731.

Hirano, et al. "Extendible hashing for concurrent insertions and retrievals," in Proc 4th Euromicro Workshop on Parallel and Distributed Processing, 1996 (PDP '96), Jan. 24, 1996 to Jan. 26, 1996, pp. 235-242, Braga, Portugal.

Preneel et al., "The Cryptographic Hash Function RIPEMD-160", appeared in CryptoBytes RSA Laboratories, vol. 3, No. 2, pp. 9-14, Fall, 1997 (also Bosselaers et al., "The RIPEMD-160 Cryptographic Hash Function", Jan. 1997, Dr. Dobb's Journal, pp. 24-28).

Prusker et al., "The Siphon: Managing Distant Replicated Repositories" Nov. 8-9, 1990, Proc. Management of Replicated Data IEEE, Reply to Examination Report, Munich, Nov. 18, 2009, in Application No. EP 96 910 762.2 [19 pgs.].

Rich, K., et al., "Hobgoblin: A File and Directory Auditor", Sep. 30-Oct. 3, 1991, Lisa V., San Diego, CA.

USPTO Final Office Action in U.S. Appl. No. 10/742,972, Dec. 22, 2009.

USPTO, Advisory Action, Mar. 23, 2010, in U.S. Appl. No. 11/980,679.

USPTO, Final Office Action in U.S. Reexam Control No. 90/010,260, Jan. 29, 2010.

USPTO, Final Office Action mailed Jan. 12, 2010 in U.S. Appl. No. 11/980,679.

USPTO, Final Office Action mailed Aug. 18, 2009 in U.S. Appl. No. 11/017,650.

USPTO, Final Office Action mailed Sep. 30, 2009 in U.S. Appl. No. 11/724,232.

USPTO, Final Office Action, Mar. 5, 2010 in U.S. Appl. No. 11/980,687.

Cheriton, David R. and Mann, Timothy P., "Decentralizing a global naming service for improved performance and fault tolerance", ACM Transactions on Computer Systems, vol. 7, No. 2, May 1989, pp. 147-183.

Request for Reexamination of U.S. Patent No. 6,928,442: Reexam Control No. 90/010,260, filed on Aug. 29, 2008.

[Proposed] Order Regarding Construction of Terms, filed Mar. 29, 2007 in C.D. Cal. case no. CV 06-5086 SJO (Ex) [9 pgs.].

Analysis of Plaintiffs' Claim Chart for the '280 Patent As Against Defendant Media Sentry, Inc. 11 pages.

Analysis of Plaintiffs' Claim Chart for the '791 Patent As Against Defendant Media Sentry, Inc. (11916.001.0150.A) pp. 1-48.

Analysis of Plaintiffs' Claim Chart for the '791 Patent As Against Defendant Overpeer pp. 1-40.

Barbara, D., et al., "Exploiting symmetries for low-cost comparison of file copies," 8th Int'l Conf. on Distributed Computing Systems, Jun. 1988, pp. 471-479, San Jose, CA.

Campbell, M., "The Design of Text Signatures for Text Retrieval Systems," Tech. Report, Sep. 5, 1994, Deakin University, School of Computing & Math., Geelong, Australia.

Chang, W. W. et al., "A signature access method for the Starburst database system," in Proc. 15th Int'l Conf. on Very Large Data Bases (Amsterdam, The Netherlands), pp. 145-153.

Changes to Mar. 23, 2007 Deposition of Robert B. K. Dewar, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [3 pgs + cover letter.].

Communication from EPO in European Application No. 96 910 762.2—1225 dated May 8, 2009 [4 pgs.].

Communication pursuant to Article 96(2) EPC from EPO (Examination Report), Jan. 17, 2007, in Application No. EP 96 910 762.2-1225 [1 pg. with 5 pg. annex].

Complaint for Patent Infringement, Permanent Injunction and Damages, Aug. 8, 2006, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [11 pgs.].

Complaint for Patent Infringement, Permanent Injunction and Damages, filed Sep. 21, 2007 in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [10 pgs.].

Declaration of Charles S. Baker in Support of Defendant Lime Wire's Motion to Stay Pending Reexamination of Patent and Request for Extension of Deadlines, Aug. 29, 2008, in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [2 pgs.].

Defendant Lime Wire, LLC's First Amended Answer, Affirmative Defenses and Counterclaims, Oct. 2, 2008, C.D. Cal. case No. 07-06161 VBF (PLAx) [13 pgs.].

Defendant Lime Wire, LLC's Second Amended Answer, Affirmative Defenses and Counterclaims, Oct. 27, 2008, from C.D. Cal. case No. 07-06161 VBF (PLAx) [13 pgs.].

Defendant Michael Weiss's Answer to Plaintiffs' Complaint for Patent Infringement, Permanent Injunction and Damages, Demand for Jury Trial, Sep. 15, 2006, case No. CV 06-5086 SJO (Ex) [10 pgs.].

Defendant Recording Industry Association of America's Amended Notice of Motion and Motion for Partial Summary Judgment on Plaintiffs' Claims for Patent Infringement and Inducing Patent Infringement; Memorandum of Points and Authorities, May 22, 2006, redacted, original confidential, filed under seal, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [19 pgs.].

Defendant Recording Industry Association of America's and Mediasentry, Inc.'s Notice of Motion and Motion for Partial Summary Judgment Based on Implied License or, in the Alternative, Based on Patent Misuse and Unclean Hands, May 22, 2006, Redacted, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [21 pgs.].

Defendant Recording Industry Association of America's and Mediasentry, Inc.'s Notice of Motion and Motion for Partial Summary Judgment Based on Implied License or, in the Alternative, Based on Patent Misuse and Unclean Hands, May 8, 2006, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [20 pgs.].

Defendant StreamCast Networks Inc.'s Answer to Plaintiff's Complaint for Patent Infringement, Permanent Injunction and Damages; Demand for Jury Trial, Sep. 5, 2006, C.D. Cal. case No. CV 065086 SJO (Ex) [10 pgs.].

Defendants' Amended Preliminary Claim Constructions [Patent Rule 4-2], filed Feb. 7, 2007 in C.D. Cal. case No. CV 06-5086 SJO (Ex) [10 pgs.].

Defendants' Second Amended Preliminary Claim Constructions [Patent Rule 4-2], filed Feb. 9, 2007 in C.D. Cal. case No. CV 06-5086 SJO (Ex) [10 pgs.].

Dewar, Rebuttal Expert Report of Robert B.K. Dewar, in C.D. Cal. case No. CV 04-7456 JFW (CTx), Apr. 10, 2006 [87 pgs.].

Faloutsos, C., "Access methods for text," ACM Comput. Surv. 17, 1 (Mar. 1985), 49-74.

Faloutsos, C. et al., "Description and performance analysis of signature file methods for office filing," ACM Trans. Inf. Syst. 5, 3 (Jul. 1987), 237-257.

US 7,945,544 B2

Page 4

- Faloutsos, C., et al., "Signature files: an access method for documents and its analytical performance evaluation," *ACM Trans. Inf. Syst.* 2, 4 (Oct. 1984), 267-288.
- Federal Information Processing Standards (FIPS) Publication 180-1: Secure Hash Standard, Apr. 17, 1995 [17 pgs.].
- Feigenbaum, J., et al., "Cryptographic protection of databases and software," in *Distributed Computing and Cryptography: Proc. DIMACS Workshop*, Apr. 1991, pp. 161-172. American Mathematical Society, Boston, Mass.
- First Amended Answer of Defendant Mediasentry to Second Amended Complaint and Counterclaim, Apr. 24, 2006, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [29 pgs.].
- First Amended Answer of Defendant RIAA to Second Amended Complaint and Counterclaim, Apr. 24, 2006, in C.D. Cal. Case No. CV 04-7456 JFW (CTx) [27 pgs.].
- First Amended Complaint for Patent Infringement, Permanent Injunction and Damages, filed Sep. 8, 2008 in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [10 pgs.].
- Harrison, M. C., "Implementation of the substring test by hashing," *Commun. ACM* 14, 12 (Dec. 1971), 777-779.
- IEEE. The Authoritative Dictionary of IEEE Standards Terms, 7th ed., Copyright 2000, pp. 107, 176, 209, 240, 241, 432, 468, 505, 506, 682, 1016, 1113, 1266, and 1267.
- Ishikawa, Y., et al., "Evaluation of signature files as set access facilities in OODBs." In *Proc. of the 1993 ACM SIGMOD Inter. Conf. on Management of Data* (Washington, D.C., U.S., May 1993). P. Buneman & S. Jajodia, Eds. SIGMOD '93, ACM, NY, NY, 247-256.
- Joint Claim Construction and Prehearing Statement, N.D. Cal. Rule 4-3, Feb. 12, 2007, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [20 pgs.].
- Karp, R. M. and Rabin, M. O., "Efficient randomized pattern-matching algorithms," *IBM J. Res. Dev.* 31, 2 (Mar. 1987), 249-260.
- List of Asserted Claims and Infringement Chart for Each Asserted Claim, Jul. 28, 2008, in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [31 pgs.].
- McGregor D. R. and Mariani, J. A. "Fingerprinting—A technique for file identification and maintenance," *Software: Practice and Experience*, vol. 12, No. 12, Dec. 1982, pp. 1165-1166.
- Notice of Interested Parties, filed Sep. 21, 2007 in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [2 pgs.].
- Notice of Motion and Motion of Defendant Lime Wire to Stay Litigation Pending Reexamination of Patent and Request for Extension of Deadlines, Sep. 22, 2008, C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [11 pgs.].
- Notice of Related Cases, filed Sep. 21, 2007 in C.D. Cal. Case No. CV 07-06161 VBF (PLAx) [2 pgs.].
- Panagopoulos, G., et al., "Bit-sliced signature files for very large text databases on a parallel machine architecture," in *Proc. of the 4th Inter. Conf. on Extending Database Technology (EDBT)*, Cambridge, U.K., Mar. 1994, pp. 379-392 (Proc. LNCS 779 Springer 1994, ISBN 3-540-57818-8) [14 pgs.].
- Patent Abstract, "Management System for Plural Versions," Pub. No. 63273961 A, published Nov. 11, 1988, NEC Corp.
- Patent Abstracts of Japan, "Data Processor," Appln. No. 05135620, filed Jun. 7, 1993, Toshiba Corp.
- Plaintiff Kinetech, Inc.'s Responses to Defendant Mediasentry's First set of Interrogatories, May 1, 2006, in C.D. Cal. Case No. CV 04-7456 JFW (CTx) [14 pgs.].
- Plaintiff-Counterclaim Defendant Altnet, Inc.'s Supplemental Responses to Defendant-Counterclaim Plaintiff Overpeer Inc.'s First Set of Interrogatories, Mar. 8, 2006, redacted, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [24 pgs.].
- Plaintiff-Counterclaim Defendant Brilliant Digital Entertainment, Inc.'s Supplemental Responses to Defendant-Counterclaim Plaintiff Overpeer Inc.'s First Set of Interrogatories, Mar. 8, 2006, redacted, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [24 pgs.].
- Plaintiff-Counterclaim Defendant Kinetech, Inc.'s Supplemental Responses to Defendant-Counterclaim Plaintiff Overpeer Inc.'s First Set of Interrogatories Mar. 8, 2006, redacted, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [24 pgs.].
- Plaintiffs Altnet, Inc., Brilliant Digital, Inc., and Kinetech, Inc.'s Responses to Defendant Recording Industry Association of America's First Set of Requests for Admissions, Jan. 6, 2006, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [26 pgs.].
- Plaintiffs' Claim Construction Opening Brief and Exhibits A-D, F, G; May 7, 2007, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [112 pgs.].
- Plaintiffs' Preliminary Claim Constructions and Extrinsic Evidence, Feb. 6, 2006, in case CV 06-5086 SJO (Ex) [20 pgs.].
- Plaintiff's Reply to Defendant Mediasentry's Counterclaims in its Answer to the Second Amended Complaint, May 1, 2006, in C.D. Cal. Case No. CV 04-7456 JFW (CTx) [11 pgs.].
- Plaintiff's Reply to Defendant RIAA's Counterclaims in its Answer to the Second Amended Complaint, May 1, 2006, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [11 pgs.].
- Plaintiffs' Reply to Defendants' Claim Construction Brief, filed Apr. 23, 2007 in C.D. Cal. case No. CV 06-5086 ODW (Ex) [15 pgs.].
- Reply to Examination Report, Jul. 19, 2007, in Application No. EP 96 910 762.2-1225 [7 pgs.].
- Response to Non-Final Office Action filed May 19, 2009 in U.S. Appl. No. 11/017,650 [19 pgs.].
- Rivest, R., RFC 1320. "The MD4 Message-Digest Algorithm," The Internet Engineering Task Force (IETF), Apr. 1992.
- Sacks-Davis, R., et al., "Multikey access methods based on superimposed coding techniques," *ACM Trans. Database Syst.* 12, 4 (Nov. 1987), 655-696.
- Siegel, A., et al., "Deceit: a Flexible Distributed File System," *Proc. Workshop on the Management of Replicated Data*, Houston, TX, pp. 15-17, Nov. 8-9, 1990.
- Siegel, A., et al., "Deceit: a Flexible Distributed File System," Technical Report, TR89-1042, Cornell University, Nov. 1989.
- Stipulation and Proposed order to (1) Amend the Complaint, (2) Amend pretrial Schedule, and (3) Withdraw Motion to Stay, filed Sep. 8, 2008 in C.D. Cal. Case No. CV 07-06161 VBF(PLAx) [6 pgs.].
- Streamcast Networks Inc.'s Supplemental Responses to Certain of Plaintiffs' First Set of Interrogatories, Apr. 16, 2007, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [61 pgs.].
- StreamCast's Brief Re Claim Construction, Apr. 12, 2007, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [11 pgs.].
- Transcript of Deposition of David Farber, Feb. 16, 2006, in C.D. Cal. case No. CV 04-7456 JFW (CTx) [94 pgs.].
- Transcript of Deposition of Robert B. K. Dewar, Mar. 23, 2007, in C.D. Cal. case No. CV 06-5086 SJO (Ex) [61 pgs.].
- Transcript of Deposition of Ronald Lachman, Feb. 1, 2006, C.D. Cal. case No. CV 04-7456 JFW (CTx) [96 pgs.].
- USPTO, Non-Final Office Action mailed May 6, 2009 in U.S. Appl. No. 11/980,679.
- USPTO, Non-Final Office action mailed Jun. 15, 2009 in U.S. Appl. No. 11/980,687.
- USPTO, Non-Final Office action mailed Jun. 18, 2009 in Reexam No. 90/010,260.
- Advances in Cryptology-AUSCRYPT '92—Workshop on the Theory and Application of Cryptographic Techniques Gold Coast, Queensland, Australia Dec. 13-16, 1992 Proceedings.
- Advances in Cryptology-EUROCRYPT '93, Workshop on the Theory and Application of Cryptographic Techniques Lofthus, Norway, May 23-27, 1993 Proceedings.
- Affidavit of Timothy P. Walker in Support of CWIS' Opening Markman Brief Construing the Terms at Issue in U.S. Patent No. 6,415,280, dated Jul. 25, 2003, from Civil Action No. 02-11430 RWZ.
- Akanai and MIT's Memorandum in Support of Their Claim Construction of USPAT 5,978,791, dated Aug. 31, 2001, from Civil Action No. 00-cv-11851RWZ.
- Akanai's Answer, Affirmative Defenses and Counterclaims to Amended Complaint, filed Dec. 6, 2002, in Civil Action No. 02-CV-11430RWZ.
- Akanai's Brief on Claim Construction, dated Aug. 8, 2003, from Civil Action No. 02-11430 RWZ.
- Albert Langer (cin851@anu.oz.au). <http://groups.google.com/groups?selm=1991Aug7.225159.786%40newshost.anu.edu.au&oe=UTF-8&output=gplain>, Aug. 7, 1991.
- Alexander Dupuy (dupuy@smarts.com), "MD5 and LIFNs (was: Misc Comments)". www.acl.lanl.gov/URI/archive/uri-94q2.messages/0081.html, Apr. 17, 1994.

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.