

25/04/03
2003023645

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



162162

(43) International Publication Date
16 May 2002 (16.05.2002)

PCT

(10) International Publication Number
WO 02/039323 A3

(51) International Patent Classification⁷: **H04L 29/06**

(21) International Application Number: PCT/US01/42816

(22) International Filing Date: 26 October 2001 (26.10.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/266,286	26 October 2000 (26.10.2000)	US
60/278,408	23 March 2001 (23.03.2001)	US
60/278,410	23 March 2001 (23.03.2001)	US
60/278,289	23 March 2001 (23.03.2001)	US
09/681,644	15 May 2001 (15.05.2001)	US

(US). **THAKUR, Rajeev**; 3775 Flora Vista Avenue, #404, Santa Clara, CA 95051 (US). **ISAACSON, Trygve**; 901 William Drive, San Lorenzo, CA 94580 (US). **GROPP, William, D.**; 1408 Rolling Grove Court, Naperville, IL 60540 (US).

(74) Agents: **RAY, Michael, B.** et al.; Sterne, Kessler, Goldstein & Fox P.L.L.C., 1100 New York Avenue, N.W. - Suite 600, Washington, DC 20005-3934 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

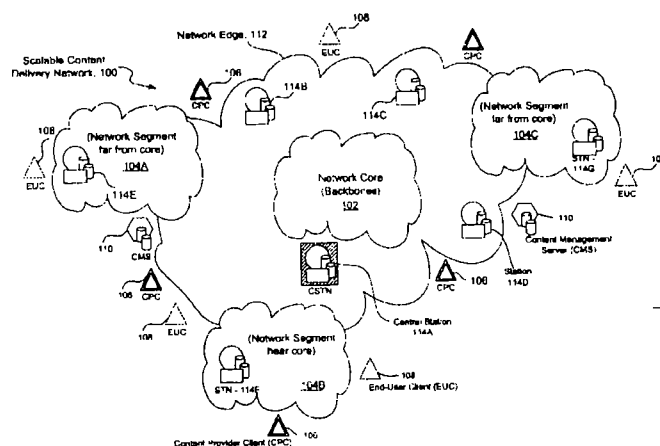
(71) Applicant: **PRISMEDIA NETWORKS, INC.** [US/US]; 3080 North First Street, Second Floor, San Jose, CA 95134 (US).

(72) Inventors: **CHAN, Desmond Cho-Hung**; 55 Devonshire Avenue, Mountain View, CA 94043 (US). **SIM, Siew, Young**; 10435 Sterling Boulevard, Cupertino, CA 95014

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR REAL-TIME PARALLEL DELIVERY OF SEGMENTS OF A LARGE PAY-LOAD FILE



ACTION

(57) Abstract: A scalable content delivery network (SCDN) employs a parallel download mechanism to ensure that a demanded file is present at a station in time for user consumption. This mechanism is used in solving the content caching and storage problem for applications such as video-on-demand, which is commonly perceived as a tough problem in the industry. In the network, files are divided into smaller units called tracks according to the nature of data contained in each of them. Tracks are further divided into smaller equally sized units called block files. This division builds the foundation for parallel download. A sequence server provides a lock-free mechanism for multiple threads or processes to access data atomically. The sequence server allows clients to gain sequential access to data, or to find out whether the sequence has been violated so that they can retry their operation or take corrective action. Advantages of the invention include the ability to handle distribution of large files and process sequencing.

WO 02/039323 A3

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

10 October 2002