

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 March 2004 (04.03.2004)

PCT

(10) International Publication Number
WO 2004/019181 A3

(51) International Patent Classification⁷: **G06F 15/16**,
15/173

(21) International Application Number:
PCT/US2003/026636

(22) International Filing Date: 25 August 2003 (25.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/405,847 24 August 2002 (24.08.2002) 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, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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

(71) Applicant (*for all designated States except US*): **INGRAN NETWORKS, INC.** [US/US]; 475 Broadway Street, Redwood City, CA 94063 (US).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **FOUNTAIN, Thomas, D.** [US/US]; 123 Positano Circle, Redwood City, CA 94065 (US).

(74) Agent: **KUDLA, Jonathan**; Perkins Coie LLP, 101 Jefferson Drive, Menlo Park, CA 94025 (US).

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

(88) Date of publication of the international search report:
6 May 2004

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.

(54) Title: SECURE CONTENT SWITCHING

(57) Abstract: A computer implemented method for optimizing secure content switching; the method includes a client initiating transmission of a secure content request. The secure request is transmitted through a network to a load balancer. The secure request is received at the load balancer and the secure request is forwarded to an individual server of a plurality of servers. The secure request is received and processed at the individual server. The secure request is sent to an appropriate backend web server. A requested secure content is then sent from the appropriate back-end web server to the user via the server, the load balancer, the network and the client.



WO 2004/019181 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/26636

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 15/16,15/173
 US CL : 709/224,227,228,229

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 709/224,227,228,229,226,237

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	U.S. 6,098,093 A (Bayeh et al.) 01 Aug 2000 (01.08.2000); Title, Abstract, Figure 3, column 3, column 8 lines 43-column10 lines 67, column 10 lines 49-column 12 lines 67	1-59
Y	Alteon Web Systems: "The Next Step in Server Load Balancing" November 1999, Retrieved from the Internet: <URL:http://www.nortelnetworks.com/products/library/collateral/intel_int/slb_wp.pdf>, Retrieved on 02-Mar-2004; page 4-11	1-59
Y	US 2002/0073232 A1 (Hong et al.) 13 Jun 2002 (12.06.2002); Title, Abstract, Figures 1-2 & 4-6, page 1 [0004] - page 2 [0021], page 3 [0032]-page 4 [0045]	1-59
Y	Alteon Web Systems: "Networking with the Web in Mind" May 1999, Retrieved from the Internet: <URL:http://www.nortelnetworks.com/products/library/collateral/intel_int/webworking_wp.pdf>, Retrieved on 02-Mar-2004; page 1, pages 3- 7	1-59
X, P	US 2003/0014650 A1 (Freed et al.) 16 Jan 2003 (16.01.2003), Title, Abstract, Figures 1-9B, page 1 column1-page 2 column 1, pages 3-4, page 7	47-59
A, P	US 6,587,866 B1 (Modi et al.) 01 Jul 2003 (01.07.2003), Title, Abstract, Figures 1-4, column 2 lines 48-column 3 lines 50, column 17 lines 31-column 19 lines 22	1-59



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

02 March 2004 (02.03.2004)

Date of mailing of the international search report

16 MAR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Jack Harvey

Telephone No. (703) 305-3900

INTERNATIONAL SEARCH REPORT

PCT/US03/26636

Continuation of B. FIELDS SEARCHED Item 3:

IEEE, GOOGLE

Search terms: web content switching, client affinity, session tracking, load balancer, URL rewrite, SSL handshakes, cookie insertion