

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
2 March 2006 (02.03.2006)

PCT

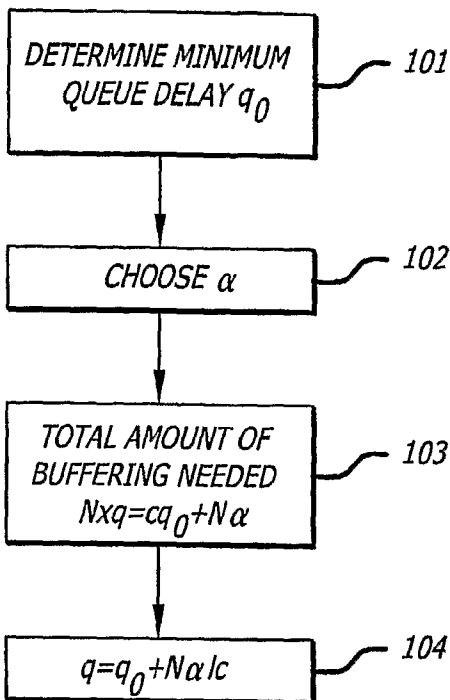
(10) International Publication Number  
**WO 2006/023604 A3**

- (51) International Patent Classification:  
*G08C 15/00* (2006.01)
- (21) International Application Number:  
PCT/US2005/029329
- (22) International Filing Date: 17 August 2005 (17.08.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/602,111 17 August 2004 (17.08.2004) US  
60/602,987 19 August 2004 (19.08.2004) US  
60/605,458 30 August 2004 (30.08.2004) US
- (71) Applicant (for all designated States except US): **CALIFORNIA INSTITUTE OF TECHNOLOGY** [US/US]; 1200 East California Boulevard, M/C 201-85, Pasadena, CA 91125 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **JIN, Cheng** [CN/US]; 160 S. Michigan Avenue #103, Pasadena, CA 91106 (US). **LOW, Steven, H.** [US/US]; 200 Mariner Views Lane, La Canada, CA 91011 (US). **WEI, Xiaoliang (David)** [CN/US]; 1200 E. California Boulevard, M/C 256-80, Pasadena, CA 91125 (US). **WYDROWSKI,**

- Bartek** [AU/US]; 339 Calaveras Street, Altadena, CA 91001 (US). **TANG, Ao** [—/US]; 1200 E. California Blvd., Pasadena, CA 91125 (US). **CHOE, Hyojeong** [KR/KR]; Robotics and Automation Lab., LG B/D #320 EEE Postech, San 31 Hyoja-Dong Nam-Gu, Pohang 790-784 (KR).
- (74) Agents: **HARRIMAN, John, D., II.** et al.; Brown Raysman Millstein Felder & Steiner LLP, 1880 Century Park East, 12th Floor, Los Angeles, CA 90067 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR NETWORK CONGESTION CONTROL USING QUEUE CONTROL AND ONE-WAY DELAY MEASUREMENTS



(57) Abstract: The invention provides a congestion control scheme that is a delay based scheme that includes a scalable queue size and one-way queueing delay measurement to reduce network congestion. Queue size is managed by queue control, a scalable utility function, dynamic alpha tuning, and/or randomized alpha tuning. One-way queueing delay is accomplished by measuring backward queueing delay management using various methods of estimating the receiver clock period. Embodiments include estimating the receiver clock period using single sample and multiple sample periods. The system includes a method for detecting route change.

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RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**(88) Date of publication of the international search report:**  
4 January 2007

**Published:**

— with international search report

*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.*

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US05/29329

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: G09C 15/00

USPC: 370/229,235

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. : 370/229,235

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)  
search terms:congestion control, queuing delay

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	US 2005/0286416 A1 (Shimonishi et al) 29 December 2005 (29.12.05), paragraphs 0022, 0080, 0081, 0156	1-3, 5-14, 19, 23
A,E	US 2005/0259577 A1 (Sin) 24 November 2005 (24.11.2005), paragraphs 0062-0066	5

Further documents are listed in the continuation of Box C.  See patent family annex.

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"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
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"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: 28 August 2006 (28.08.2006)  
Date of mailing of the international search report: 25 SEP 2006

Name and mailing address of the ISA/US: Mail Stop PCT, Attn: ISA/US, Commissioner of Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. (571) 273-3201  
Authorized officer: Chau Nguyen  
Telephone No. (571)272-2600

*Ruigenia Lopez*