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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 September 2002 (26.09.2002)

PCT

(10) International Publication Number
WO 02/075554 A1

(51) International Patent Classification[7]: G06F 13/00

(21) International Application Number: PCT/US02/08436

(22) International Filing Date: 20 March 2002 (20.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/276,923	20 March 2001 (20.03.2001)	US
60/276,953	20 March 2001 (20.03.2001)	US
60/276,955	20 March 2001 (20.03.2001)	US
60/331,271	13 November 2001 (13.11.2001)	US
10/095,910	12 March 2002 (12.03.2002)	US

(71) Applicant: **WORLDCOM, INC.** [US/US]; 500 Clinton Center Drive, Clinton, MS 39056 (US).

(72) Inventors: **McDYSAN, David, E.**; 2159 Astoria Circle, #104, Herndon, VA 20170 (US). **RAWLINS, Diana, J.**; 318 Northview Drive, Richardson, TX 75080 (US). **YAO, Lei**; 2000 South Eads Street #517, Arlington, VA 22202 (US).

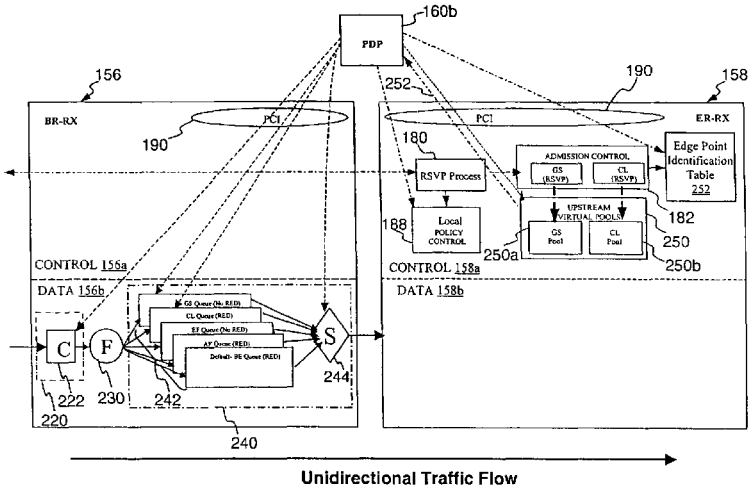
(74) Agent: **GROLZ, Edward, W.**; Scully, Scott, Murphy & Presser, 400 Garden City Plaza, Garden City, NY 11530 (US).

(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, TN, TR, TT, TZ, UA, UG, UZ, 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, 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).

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(54) Title: POOL-BASED RESOURCE MANAGEMENT IN A DATA NETWORK



(57) Abstract: In one embodiment, a network system of the present invention includes at least a first router (156) and a second router (158) coupled to an upstream link to permit data flow from the first router (156) to the second router (158) across the upstream link. The second router (158) includes a control plane (158a) and a data plane (158b) having an input port coupled to the upstream link and an output port connectable to a downstream link. The control plane (158a) includes a virtual pool (250) having a capacity corresponding to a resource capacity of the first router (156) and an admission control function (182). In response to a request to reserve resources for a flow through the data plane (158b) from the input port to the output port, the admission control function (182) performs admission control for the upstream link by reference to resource availability within the virtual pool (250). In one embodiment, the request is a request to reserve resources for an Integrated Services flow, and the capacity of the virtual pool (250) corresponds to a resource capacity of a Integrated Services service class supported by the first router (156).

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Published:
— *with international search report*

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