

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/088458 A3

- (51) International Patent Classification⁷: **H04Q 7/20**
- (21) International Application Number:
PCT/US2004/008951
- (22) International Filing Date: 23 March 2004 (23.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10/397,441 26 March 2003 (26.03.2003) US
- (71) Applicant (for all designated States except US): **SONY ELECTRONICS, INC.** [US/US]; 1 Sony Drive, Park Ridge, NJ 07656 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DACOSTA, Behram, Mario** [IN/US]; 11868 Stoney Peak Drive, No. 431, San Diego, CA 92128 (US). **DESCH, David, Alan** [US/US]; 14994 Huntington Gate Drive, San Diego, CA 92127 (US).
- (74) Agents: **HOLLOWAY, Sheryl, Sue et al.**; Blakely, Sokoloff, Taylor & Zafman, 12400 Wilshire Blvd., 7th Floor, Los Angeles, CA 90025-1026 (US).

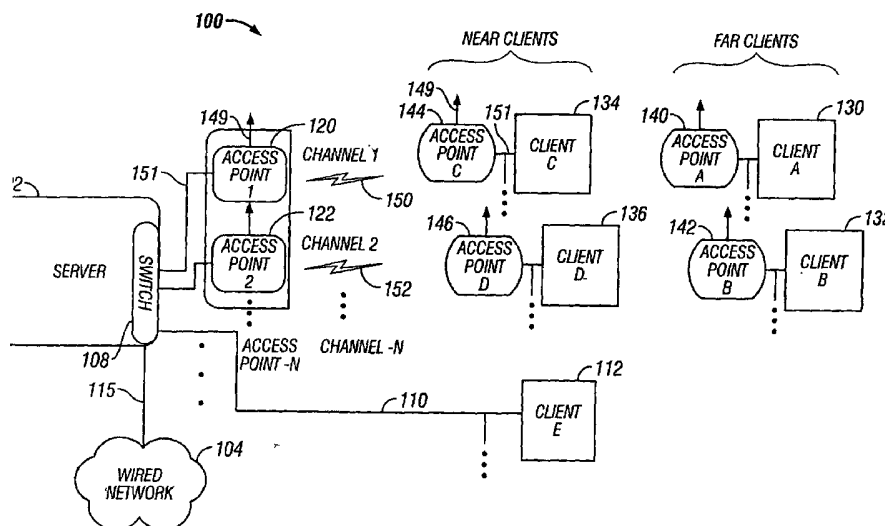
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, 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 (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, 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, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(88) Date of publication of the international search report:
20 January 2005

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR DYNAMICALLY ALLOCATING DATA RATES AND CHANNELS TO CLIENTS IN A WIRELESS NETWORK



(57) Abstract: Disclosed is a system, apparatus, and method for dynamically allocating wireless channels in a wireless network. At least two client devices [130, 134] are present in the wireless network [100]. Each client device is capable of transceiving wireless data over a wireless channel [150, 152]. In one embodiment, a server [102] capable of a transceiving wireless data over at least one wireless channel [150, 152] determines the number of client devices in the wireless network [100]. The server [102] allocates client devices [130, 134] to different wireless channels. Particularly, client devices that receive data at substantially different data rates are allocated to different wireless channels [150, 152] in order to optimize the total system utility of the wireless network [100]. Furthermore, client devices that receive data at substantially similar data rates are allocated to the same wireless channel.

WO 2004/088458 A3



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/US04/08951

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : H04Q 7/20
 US CL : 455/451,464,452.100,450,452.2,455;370/337,338,347,468
 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. : 455/451,464,452.100,450,452.2,455;370/337,338,347,468

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)
 EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,E	US 2004/125799 A1 (KELTON ET AL) 01 July 2004, see paragraphs 0017, lines 1-3, 0053, lines 1-13, 0050 and 0052, line 8.	1-38
Y	US 5,249,290 A (HEIZER) 28 September 1993, see col. 3, lines 24-41, col. 1, lines 35-41.	1-38
Y,P	US 6,647,058 B1 (BRENNER ET AL) 11 November 2003, see col. 6, lines 31-43.	4-6,15-17,28-30 and 35-37
A	US 6,480,506 B1 (GUBBI) 12 November 2002.	1-38
A,E	US 6,738,363 B1 (BEST ET AL) 18 May 2004.	1-38
A,E	IS 6,748,220 B1 (CHOW ET AL) 08 June 2004.	1-38

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"B" earlier application or patent published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"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: 13 October 2004 (13.10.2004)
 Date of mailing of the international search report: 29 OCT 2004

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. (703)305-3230
 Authorized officer: KEN WIEDER
 Telephone No. 703-305-4800