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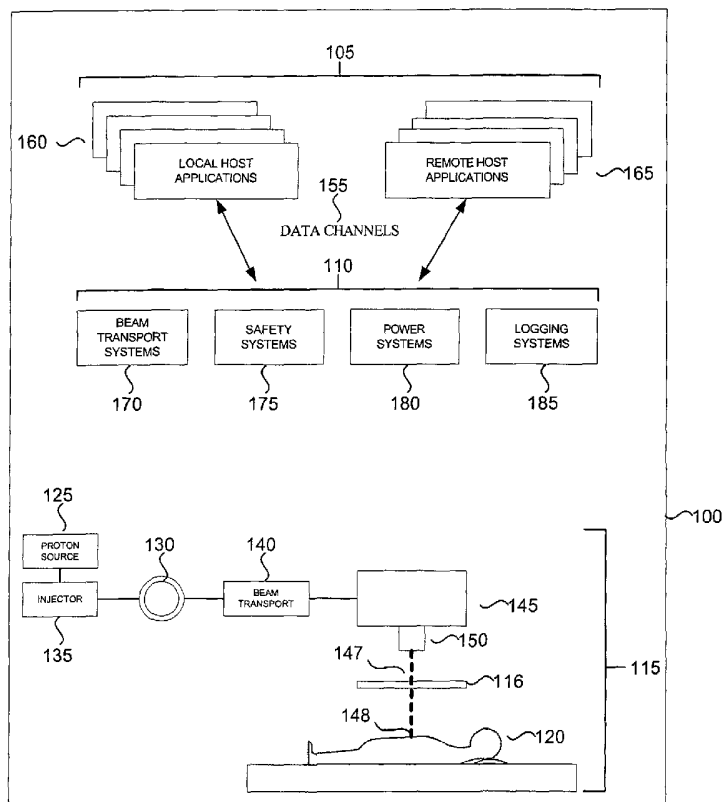
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- (71) Applicant (for all designated States except US): **LOMA LINDA UNIVERSITY MEDICAL CENTER** [US/US];
11176 Campus Street, Suite A116, Loma Linda, CA 92350 (US).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **BAUMANN, Michael, A.** [US/US]; 20842 Oakdale Lane, Riverside, CA 92508-2504 (US). **BELOUSSOV, Alexandre, V.** [BY/US]; 25278 Taylor Street #D, Loma Linda, CA 92354-3026 (US). **BAKIR, Julide** [TR/US]; 7331 Pasito Street, Rancho Cucamonga, CA 91730-1426 (US). **ARMON, Deganit** [US/US]; 1415 Blossom Avenue, Redlands, CA 92373-4980 (US). **OLSEN, Howard, B.** [US/US]; 2197 Canyon Drive, Colton, CA 92324-9785 (US). **SALEM, Dana** [US/US]; 6621 Barkdale Lane, Riverside, CA 92509-1605 (US).
- (74) Agent: **ALTMAN, Daniel, E.**; Knobbe, Martens, Olson & Bear, LLP, 16th Floor, 620 Newport Center Drive, Newport Beach, CA 92660 (US).
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(54) Title: PROTON BEAM THERAPY CONTROL SYSTEM



PROTON BEAM THERAPY SYSTEM

(57) Abstract: A tiered communications architecture for managing network traffic in a distributed system (100). Communication between client or control computers and a plurality of hardware devices is administered by agent and monitor devices whose activities are coordinated to reduce the number of open channels or sockets. The communications architecture also improves the transparency and scalability of the distributed system by reducing network mapping dependence. The architecture is desirably implemented in a proton beam therapy system (115) to provide flexible security policies which improve patient safety and facilitate system maintenance and development.



CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), 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, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/47634

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G21F 5/04; G06F 13/38

US CL : 250/492.3; 378/65; 709/223; 710/5; 700/3

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. : 250/492.3; 378/65; 709/223; 710/5; 700/3

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	US 5,260,581 A (LESYNA et al) 09 November 1993 (09.11.1993), cols. 2-8.	1-23, 25-39, 41-87
Y	US 6,085,227 A (EDLUND et al) 04 July 2000 (04.07.2000), cols. 2-8.	1-23, 25-39, 41-87
Y	US 5,895,926 A (BRITTON et al) 20 April 1999 (20.04.1999), cols. 5-12.	28-35, 77-86
A	US 6,144,993 A (FUKUNAGA et al) 07 November 2000 (07.11.2000).	1-87
A	US 5,446,548 A (GERIG et al) 29 August 1995 (29.08.1995).	1-87
A	US 6,052,435 A (HERNANDEZ-GUERRA et al.) 18 April 2000 (18.04.2000).	1-87



Further documents are listed in the continuation of Box C.



See patent family annex.

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"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	

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Authorized officer

Glen Burgess *James R. Matthews*

Telephone No. 703-305-3900

INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

IEEE

search terms: proton beam therapy, control, communication, proxy, agent