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(21) International Application Number: PCT/SE98/01584 (22) International Filing Date: 7 September 1998 (07.09.98) (30) Priority Data: 9703292-4 9 September 1997 (09.09.97) SE (71) Applicant (for all designated States except US): SICS SWEDISH INSTITUTE OF COMPUTER SCIENCE [SE/SE]; P.O. Box 1263, S-164 29 Kista (SE). (72) Inventors; and (75) Inventors/Applicants (for US only): SJÖDIN, Peter [SE/SE]; Nyodlingsvägen 14B, S-191 40 Sollentuna (SE). MOEST- EDT, Andreas [SE/SE]; Fatburskvarnsgata 2, S-118 64 Stockholm (SE). (74) Agent: ASKERBERG, Fredrik; L.A. Groth & Co. KB, P.O. Box 6107, S-102 32 Stockholm (SE).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: A LOOKUP DEVICE AND A METHOD FOR CLASSIFICATION AND FORWARDING OF PACKETS (57) Abstract The present invention relates to a lookup device (30) and a method for classification and forwarding of packets. The lookup device (30) comprises i stages (32₁, 32₂, 32₃, 32₄) wherein each stage (32₁, 32₂, 32₃, 32₄) represents a predetermined prefix length, and a prefix represents a group of addresses. The lookup device (30) also comprises a routing memory means (34) connected to said i-th stage (32₄), wherein each stage (32₁, 32₂, 32₃, 32₄) comprises a memory means (36₁, 36₂, 36₃, 36₄) for storing a table of entries, wherein each entry comprises a pointer field which either comprises a pointer to the memory means in the next stage, or a pointer to the routing memory means (34) storing the forwarding information. Invalid route ○ Part of route ● Valid route		