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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 December 2010 (16.12.2010)

PCT

(10) International Publication Number
WO 2010/142357 A1

(51) International Patent Classification:
H04W 4/12 (2009.01) *H04W 88/16* (2009.01)
H04L 29/06 (2006.01)

(21) International Application Number:
PCT/EP2009/067874

(22) International Filing Date:
23 December 2009 (23.12.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/185,515 9 June 2009 (09.06.2009) US

(71) Applicant *(for all designated States except US)*: **TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)** [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **EWERT, Joerg Christian** [DE/DE]; Max-Pechstein-Str. 13, 52076 Aachen (DE). **KELLER, Ralf** [DE/DE]; Talblick 22, 52146 Würselen (DE). **WITZEL, Andreas** [DE/DE]; Elsa-Brandstroem-Strasse 27A, 52134 Aachen (DE).

(74) Agents: **WIEDEMANN, Peter; HOFFMANN · EITLE** et al.; Arabellastrasse 4, 81925 München (DE).

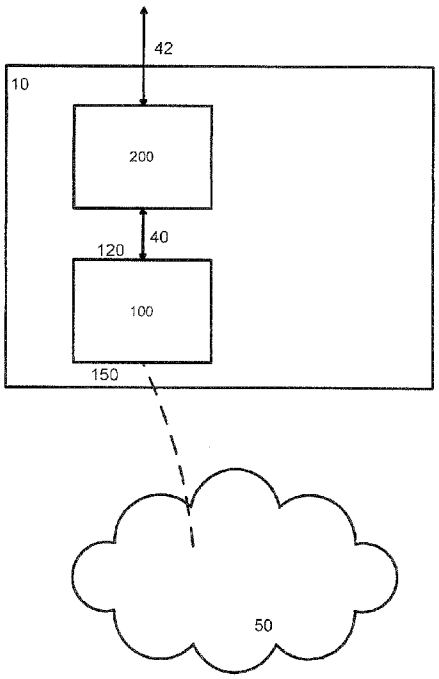
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SHORT MESSAGING SERVICE OVER 3GPP LONG TERM EVOLUTION

Figure 1



(57) Abstract: The application relates to SMS over LTE radio access. Several alternatives are already known, such as specified in 3GPP TS 24.247 which supports text messaging capabilities and 3GPP 23.204 which supports all existing SMS capabilities through SMS encapsulation in IP. Furthermore, 3GPP 23.272 which relates to SMS in CS fallback. A further technique is known as Generic Access Network which is under study in 3GPP 23.879 relating to CS domain services over evolved PS access and in Voice Over LTE VOLGA. The present application provides a solution for handling messages between legacy networks in the form of circuit-switched networks and IP network architecture in the form of an IP Multimedia Subsystem IMS while minimizing the efforts needed for system integration by maximal reuse of existing functionalities. This is achieved by an entity (100) which adapts messages received from the IMS (50) in such a way that the appear to a controller entity (200) providing conventional short message functionalities as if they have been received from a mobile terminal accessing a radio access network through a radio network interface of a circuit-switched network (40).

WO 2010/142357 A1

Published:

— *with international search report (Art. 21(3))*