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- (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, BN, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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(54) Title: BEARER ACTIVATION USING A TUNNEL IDENTIFIER AND A BASE STATION IDENTIFIER|INCLUDED IN AN UPLINK DATA PACKET

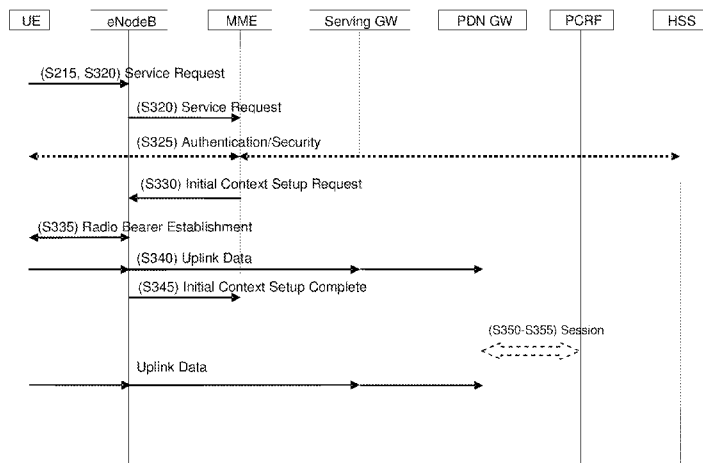


FIG. 5

(57) Abstract: A base station stores a gateway tunnel identifier, a base station identifier and a base station tunnel identifier; the base station receives a service request message from a device, establishes a radio bearer between the base station and the device in response to the service request message, receives one or more first uplink data packets from the device using the radio bearer, modifies the one or more first uplink data packets such that the one or more first uplink data packets include the gateway tunnel identifier, the base station identifier and the base station tunnel identifier, and sends the modified uplink data packet to a gateway. The gateway uses the gateway tunnel identifier, the base station identifier and the base station tunnel identifier from the modified uplink data packet to activate a bearer without receiving a Modify Bearer Request message from a network control entity or sending a Modify Bearer Response message to the network control entity. Thus, the network resources needed to support bearer activation are reduced.

WO 2014/008091 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/048178

A. CLASSIFICATION OF SUBJECT MATTER
 INV. H04W76/02
 ADD.
 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)
 H04W
 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)
 EPO-Internal, INSPEC, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	3GPP: "3GPP TS 23.401 V11.2.0; 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access (Release 11)", 3GPP DRAFT; 23401-B20 CRS IMPLEMENTED, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, 22 June 2012 (2012-06-22), pages 119-121, XP050625398, chapter 5.3.4.1 ----- -/--	1-3,7-10

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

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"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
"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	

Date of the actual completion of the international search 9 October 2013	Date of mailing of the international search report 10/12/2013
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Hartweg, Norman
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/048178

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	"3GPP TR 23.887 V0.10.0; 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Machine-Type and other Mobile Data Applications Communications Enhancements (Release 12)", 3GPP STANDARD; 3GPP TR 23.887, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. SA WG2, no. V0.10.0, 11 June 2013 (2013-06-11), pages 1-134, XP050692565, chapter 5.1.1.3.8 -----	1-3,7-10
X,P	ERICSSON ET AL: "Addressing concerns with UP optimizations for small data", 3GPP DRAFT; S2-132147 WAS1793 UP OPTIMIZATIONS V2, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE , vol. SA WG2, no. Busan, South Korea; 20130527 - 20130531 29 May 2013 (2013-05-29), XP050709206, Retrieved from the Internet: URL: http://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_97_Busan/Docs/[retrieved_on_2013-05-29] the whole document -----	1-3,7-10

INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-3, 7-10

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3, 7-10

A modified first uplink data packet is transmitted from a base station to a gateway, wherein the modified first uplink data packet includes a tunnel identifier and a base station identifier.

2. claims: 4-6

A network control entity sends a message to a base station, wherein the message includes a gateway tunnel identifier and a gateway destination address.
