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BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
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HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
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SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a
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- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))

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[Continued on next page]

(54) Title: EFFICIENT POLICY ENFORCEMENT FOR DOWNLINK TRAFFIC USING NETWORK ACCESS TOKENS - CONTROL-PLANE APPROACH

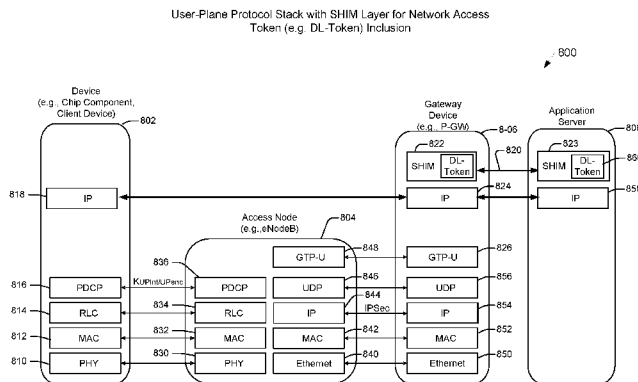


FIG. 8

(57) Abstract: A gateway device detects a trigger associated with a device and, in response, identifies an application service associated with the device, obtains a traffic network policy associated with the application service, and obtains a network access token based on the traffic network policy. The network access token facilitates validating and/or mapping a downlink data packet obtained at the gateway device in user-plane traffic that is destined for the device. The network access token is sent to an entity in control-plane signaling. Subsequently, the gateway device obtains a downlink data packet including the network access token. The gateway device verifies the network access token and/or maps the downlink data packet to the device using data obtained from the network access token. The network access token may be removed from the downlink data packet before the downlink data packet is sent to the device according to the mapping.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L12/66 H04L12/815 H04L12/813 H04L29/08 H04W12/06
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)
H04L 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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2013/017176 A1 (ERICSSON TELEFON AB L M [SE]; SACHS JOACHIM [DE]; REMBARZ RENE [DE]; C) 7 February 2013 (2013-02-07) page 5, paragraph 2 - paragraph 3 page 6, line 12 - page 7, line 2 -----	1-15
A	WO 2010/023646 A2 (ALCATEL LUCENT [FR]; DOLGANOW ANDREW [CA]; MORIN STEVEN EDWARD [CA]; A) 4 March 2010 (2010-03-04) abstract -----	1-15
A	WO 2006/045402 A1 (TELECOM ITALIA SPA [IT]; DE LUTIIS PAOLO [IT]; DI CAPRIO GAETANO [IT];) 4 May 2006 (2006-05-04) abstract -----	1-15
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search 9 December 2016	Date of mailing of the international search report 16/12/2016
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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 Carnerero Álvaro, F
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INTERNATIONAL SEARCH REPORT

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2011/267943 A1 (HUANG XIAOLONG [US] ET AL) 3 November 2011 (2011-11-03) abstract	1-15

A	WO 2006/094721 A1 (SIEMENS AG [DE]; LORUSSO STEPHEN [US]; LYONS ELMER [US]) 14 September 2006 (2006-09-14) abstract	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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