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(71) Applicant: **COMMSCOPE TECHNOLOGIES LLC**
 [US/US]; 1100 CommScope Place SE, Hickory, North Carolina 28602 (US).

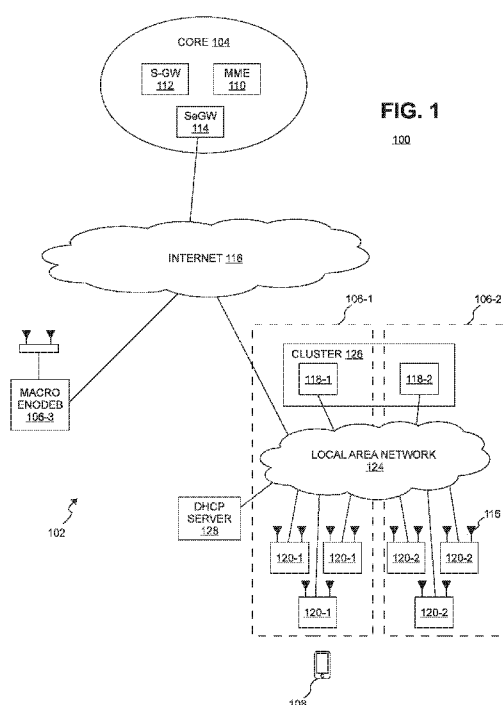
(72) Inventors: **FAZEL SARJOU, Fatemeh**; c/o CommScope Technologies LLC, 1100 CommScope Place SE, Hickory, North Carolina 28602 (US). **MAHALINGAM, Nagi Jayaraman**; c/o CommScope Technologies LLC, 1100 CommScope Place SE, Hickory, North Carolina 28602 (US).

(74) Agent: **POWERS, Jon M.**; Fogg & Powers LLC, 4600 W 77th Street, Suite 305, Minneapolis, Minnesota 55435 (US).

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(54) Title: CLUSTER NEIGHBOR DISCOVERY IN CENTRALIZED RADIO ACCESS NETWORK USING TRANSPORT NETWORK LAYER (TNL) ADDRESS DISCOVERY



(57) Abstract: A request is sent from a first base station to a second base station for a transport layer address assigned to the second base station that is suitable for establishing a connection between the first base station and the second base station. The second base station determines whether to include an outer address assigned to the second base station in a response to the request. If that is the case, the second base station sends the response to the first base station that includes a tunnel inner address assigned by a security gateway to the second base station and the outer address. The first base station determines whether the outer address is included in the response. If that is case, the outer address is used to establish the connection between the first base station and the second base station without using the security gateway.

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A. CLASSIFICATION OF SUBJECT MATTER**H04W 8/26(2009.01)i, H04W 88/08(2009.01)i, H04W 92/20(2009.01)i, H04L 29/12(2006.01)i**

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 8/26; H04W 72/12; H04W 76/02; H04W 88/08; H04L 12/24; H04W 92/20; H04L 12/751; H04L 12/721; H04W 72/04; H04L 29/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & keywords: base station to base station connection, transport layer address, outer address, tunnel inner address, security gateway, IP address, LTE X2, DHCP, X2 mesh, IPsec, cluster, ETHERNET, C-RAN, local communication

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2016-0212775 A1 (LG ELECTRONICS INC.) 21 July 2016 See paragraphs [0057], [0242]-[0353]; and figure 13.	1-3, 6-25, 28-33
A		4, 5, 26, 27
Y	US 2015-0109955 A1 (TELEFONAKTIEBOLAGET L M ERICSSON (PUBL)) 23 April 2015 See paragraphs [0006]-[0051], [0106]-[0108]; claims 1, 2; and figure 10.	1-3, 6-25, 28-33
Y	US 2016-0242147 A1 (ANDREW WIRELESS SYSTEMS GMBH) 18 August 2016 See paragraphs [0023], [0045].	9, 10, 20, 21, 30, 31
A	WO 2015-113640 A1 (NOKIA SOLUTIONS AND NETWORKS OY) 6 August 2015 See page 9, line 32 - page 10, line 2.	1-33
A	3GPP TS 36.423 v14.0.0, '3GPP; TSGRAN; E-UTRAN; X2 application protocol (X2AP) (Release 14)', 30 September 2016 See sections 8.3.3.2, 9.1.2.3; and figure 8.3.3.2-1.	1-33

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

* Special categories of cited documents:

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"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

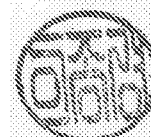
189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea

Facsimile No. +82-42-481-8578

Authorized officer

LEE, Jong Kyung

Telephone No. +82-42-481-3360



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2017/065891

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016-0212775 A1	21/07/2016	WO 2015-046911 A1	02/04/2015
US 2015-0109955 A1	23/04/2015	US 9641422 B2	02/05/2017
		WO 2015-056133 A1	23/04/2015
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