

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PCT180047CN	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2018/075809	International filing date (<i>day/month/year</i>) 08 February 2018 (08.02.2018)	Priority date (<i>day/month/year</i>) 09 January 2017 (09.01.2017)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant CHINA ACADEMY OF TELECOMMUNICATIONS TECHNOLOGY			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 09 July 2019 (09.07.2019)
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From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 16 April 2018	
Applicant's or agent's file reference PCT180047CN	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2018/075809	International filing date (day/month/year) 08 February 2018
Priority date (day/month/year) 09 January 2017	
International Patent Classification (IPC) or both national classification and IPC H04W 76/20(2018.01)i; H04W 76/30(2018.01)i	
Applicant CHINA ACADEMY OF TELECOMMUNICATIONS TECHNOLOGY	

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement			
1. Statement	Novelty (N)	Claims	1-28 <hr/> None	YES <hr/> NO
	Inventive step (IS)	Claims	None <hr/> 1-28	YES <hr/> NO
	Industrial applicability (IA)	Claims	1-28 <hr/> None	YES <hr/> NO
2. Citations and explanations :				
	[1] D1: CN 105813079 A			
	[2] D2: CN 102026408 A			
	[3] D1, which is the closest prior art, discloses (see description, paragraphs [0021] to [0093]): extending the concept of “bearer” in a mobile network data plane to correspond to data forwarding paths of different access types; when a service is completed, a corresponding bearer can be deactivated so as to release resources (a bearer is an end-to-end connection, and the service bearer is thus equivalent to a user plane connection). When deactivating an access bearer is necessary, a terminal notifies, by means of a main control access point, a mobility management server to perform access bearer deactivation (the notification is equivalent to a connection release request). Upon receiving the notification, the mobility management server determines an identifier of the deactivated access bearer according to the notified deactivated access bearer, and notifies a session management server to perform the deactivation (the notification sent to the session management server is equivalent to a user plane connection deactivation request). The session management server deactivates the access bearer corresponding to the identifier, and notifies a forwarding controller to delete a routing table entry corresponding to the access bearer. The forwarding controller notifies, according to a forwarding protocol and a routing protocol corresponding to the access bearer, a corresponding forwarding node and a gateway device to delete the corresponding routing table entry; and notifies the session management server that routing update is completed. The session management server sends a message informing of the completion of access bearer deactivation to the terminal by means of the mobility management server.			
	[4] D2 discloses (see description, paragraphs [0065] to [0072]): a domestic base station sends a connection release request to a mobility management unit, wherein the connection release request carries a user equipment (UE) identifier. If the UE has a local connection, the mobility management unit deletes the relevant context of the local connection.			
	[5] Novelty			
	[6] Claims 1, 6, 13, and 18 differ from D1 in that: (1) the connection release request carries UE identifier information; (2) a signaling plane connection of the UE is maintained.			
	[7] Claims 1 and 6 further differ from D1 in that: (3) UEs in an idle state are processed.			
	[8] Claims 13 and 18 further differ from D1 in that: (4) mobility management (MM) and session management (SM) comprise multiple functional modules.			
	[9] Claims 1, 6, 13, and 18 and dependent claims 2-5, 7-12, 14-17, and 19-24 thereof are novel in the sense of PCT Article 33(2).			
	[10] Claims 25 and 27 refer to any one of claims 1-5, and claims 26 and 28 refer to any one of claims 6-12. Therefore, when claims 1-12 are novel, claims 25-28 are also novel in the sense of PCT Article 33(2).			
	[11] Inventive Step			
	[12] Difference (1) of claims 1, 6, 13, and 18 from D1 is disclosed by D2 (see the above-mentioned sections of D2), and differences (2)-(4) are common general knowledge. Therefore, claims 1, 6, 13, and 18 do not involve an inventive step in the sense of PCT Article 33(3).			

WRITTEN OPINION OF THE
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Box No. V

**Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability;
citations and explanations supporting such statement**

- [13] Among the additional features of dependent claims 2-5, 7-12, 14-17, and 19-24, some of the features are disclosed by D1 or D2 (see the above-mentioned sections of D1 and D2), and the other features are conventional technical means for establishing, configuring, and deleting a connection in the art. Therefore, claims 2-5, 7-12, 14-17, and 19-24 do not involve an inventive step in the sense of PCT Article 33(3).
- [14] When claims 1-12 do not involve an inventive step, claims 25 and 27 (which refer to any one of claims 1-5) and claims 26 and 28 (which refer to any one of claims 6-12) likewise do not involve an inventive step in the sense of PCT Article 33(3).
- [15] Industrial Applicability
- [16] Claims 1-28 are industrially applicable in the sense of PCT Article 33(4).