

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
 100089
 China Suite 4-1105, No. 87, West 3rd Ring North Rd.,
 Haidian District, Beijing

CHINA SCIENCE PATENT & TRADEMARK
 AGENT LTD.

PCT

WRITTEN OPINION OF THE
 INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 27 June 2018	
Applicant's or agent's file reference IP170418	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2017/104767	International filing date (day/month/year) 30 September 2017
International Patent Classification (IPC) or both national classification and IPC H04L 29/02(2006.01)i	
Applicant TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) et al	

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/ STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088	Date of completion of this opinion 17 June 2018	Authorized officer LI, Ren
Facsimile No. (86—10) 62019451	Telephone No. (86-10)53961624	

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2017/104767

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:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
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 forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/CN2017/104767

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	<u>1-31</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-31</u>	NO
Industrial applicability (IA)	Claims	<u>1-31</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

- [1] The following citations and explanations are based on the reasonable prediction in the PCT/ISA/237 Box No. VIII
- [2] Reference is made to the following document:
- [3] D1: S2-176790: TS 23.501: Editorial update (NOTE numbering, non-breaking space, Style, etc.)
- [4] I. Novelty and Inventive step
- [5] D1 discloses a method of operation of a NF and discloses (see Section 5.21.2.2.1): An AMF shall be able to instruct other peer CP NFs, subscribed to receive such a notification, that the corresponding AMF identified by GUAMI(s) will be unavailable for processing UE transactions. Upon receipt of the notification that an AMF is unavailable, the other CP NF should mark this AMF as unavailable and not consider the AMF for selection anymore for subsequent MT transactions. When the peer CP NF needs to initiate a transaction towards the AMF that is marked unavailable, CP NF should select another AMF from the same AMF set.
- [6] The difference between claims 1, 15 and D1 is: 1) the information that directly or indirectly indicates a set of NFs of a same NF type as the first NF is provided by the first NF. Therefore, claims 1, 15 meet the criteria set out in PCT Article 33(2). The difference is a matter of normal design for a person skilled in the art, therefore, claims 1, 15 do not meet the criteria set out in PCT Article 33(3).
- [7] The differences between claims 17, 29 and D1 are: the said 1) and 2) invoking a service of the third NF. Therefore, claims 17, 29 meet the criteria set out in PCT Article 33(2). The differences are a matter of normal design for a person skilled in the art, therefore, claims 17, 29 do not meet the criteria set out in PCT Article 33(3).
- [8] Claims 2-14 are dependent on claim 1 directly or indirectly, claim 16 is dependent on claim 15, claims 18-28 are dependent on claim 17 directly or indirectly, claim 30 is dependent on claim 29, the additional features of claims 2-14, 18-28 can be regarded as matters of normal design for a person skilled in the art. Therefore, claims 2-14, 16, 18-28, 30 meet the criteria set out in PCT Article 33(2) and do not involve an inventive step and do not meet PCT Article 33(3).
- [9] The difference between claim 31 and D1 is: upon receiving a indication that the first NF is out of service or has failed, the third NF sends an indication to a second NF to indicate that the NF is taking over for the first NF. Therefore, claim 31 meets the criteria set out in PCT Article 33(2). The difference is a matter of normal design for a person skilled in the art, therefore, claim 31 does not meet the criteria set out in PCT Article 33(3).
- [10] II. Industrial applicability
- [11] The solutions of claims 1-31 can find industrial applicability in the technical field of communications, and thus claims 1-31 meet the criteria set out in PCT Article 33(4).

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/CN2017/104767

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- [1] Claim 30 is dependent on claim 29, but the second NF is further adapted to perform the method of any one of claims 21 to 31. Thus it is lack of clarity and does not meet the requirements of PCT Article 6. Based on reasonable prediction, the feature of “the second NF (20-B) is further adapted to perform the method of any one of claims 21 to 31” in claim 30 is changed to “the second NF (20-B) is further adapted to perform the method of any one of claims 21 to 28”.