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(54) **Title:** SOLVING AMBIGUITY REGARDING SOURCE CELL TO FETCH WIRELESS DEVICE CONTEXT FOR SUCCESSFUL RRC CONNECTION REESTABLISHMENT TO TARGET CELL

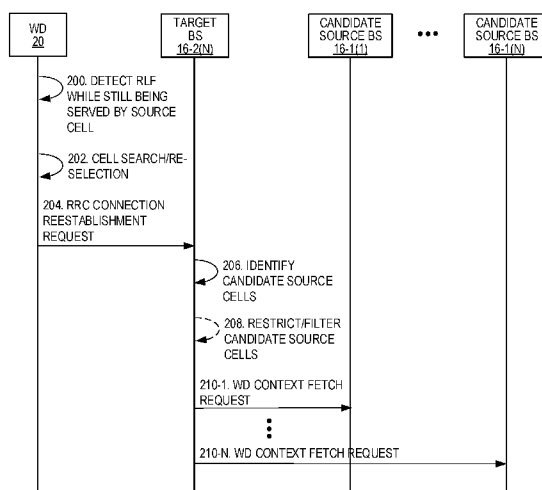


FIG. 6A

(57) **Abstract:** Systems and methods that provide improved success rates for connection reestablishments in a cellular communications system are disclosed. Embodiments of a radio access node in a cellular communications system enabling connection reestablishment for a wireless device to a target cell controlled by the radio access node are disclosed. In some embodiments, the radio access node is operative to: (a) perform a wireless device context fetch for a context for the wireless device from two or more candidate source cells of the wireless device in response to a connection reestablishment request from the wireless device and (b) receive a wireless device context from at least one of the two or more candidate source cells of the wireless device in response to performing the wireless device context fetch. By performing multiple context fetches, the radio access node mitigates the problem of physical cell identifier ambiguity.



INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. H04W36/00

ADD. H04W88/08

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, 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 A	WO 2014/058139 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 17 April 2014 (2014-04-17) abstract paragraph [0017] - paragraph [0023] paragraph [0070] - paragraph [0080] paragraph [0089] - paragraph [0156] -----	1-10, 13-15 11,12, 16-30
X A	US 2013/182563 A1 (JOHANSSON PER JOHAN MIKAEL [SE] ET AL) 18 July 2013 (2013-07-18) abstract paragraphs [0047], [0050] - [0051], [0061] - [0062] figures 5, 13 ----- -/--	1-10, 13-15 11,12, 16-30

☒ 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

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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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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 2011/250892 A1 (GUPTA AJAY [US] ET AL) 13 October 2011 (2011-10-13) abstract paragraph [0198] - paragraph [0205] -----	1-30
A	WO 2013/033909 A1 (NOKIA CORP [FI]; LI HAITAO [CN]; SHU KODO [CN]) 14 March 2013 (2013-03-14) abstract page 7, line 9 - line 32 page 9, line 17 - line 29 page 11, line 28 - page 12, line 7 page 13, line 3 - line 9 page 13, line 28 - page 14, line 6 -----	1-30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2015/059293

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.:

1-30

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: 1-30

Radio access node of target cell performing, in the presence of ambiguity regarding the source cell, a context fetch procedure with two or more candidate source cells for context of wireless device seeking connection reestablishment with the target radio access node, each of the source radio access nodes determining health of a connection to the wireless device and responding to the context request from the radio access node of the target cell accordingly, so that the radio access node of the target cell can select one of the contexts received

2. claims: 31-46

Transmission of an indication of a carrier frequency of a source cell in a connection reestablishment request from a wireless device to a target radio access node, which results in identification by the target radio access node of the source cell whose cell identifier and carrier frequency match those of the source cell of the wireless device, thus avoiding occurrence of ambiguity regarding the source cell, such that the target radio access node thereafter sends a context fetch request and receives the context for the wireless device from the source radio access thus identified

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2015/059293

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