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(54) Title: SYSTEMS AND METHODS FOR RESOURCE BOOKING FOR ADMISSION CONTROL AND SCHEDULING USING DRX

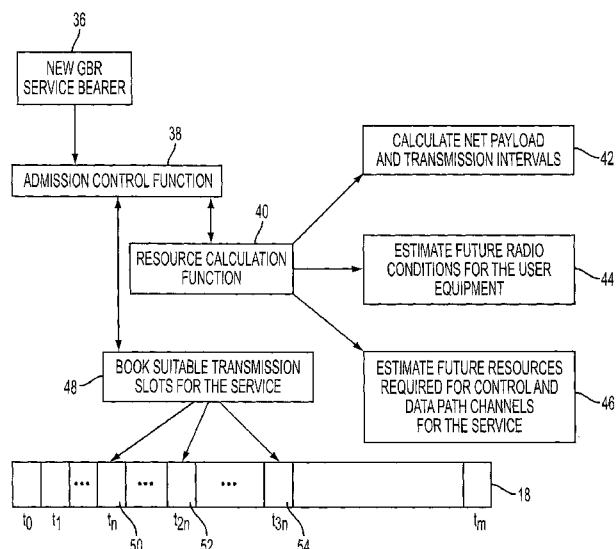


FIG. 3

(57) Abstract: Systems and methods provide for performing admission control in a communications network. The method includes: receiving a request for an entity or service for admission to the communications network; calculating resources, wherein the step of calculating resources includes: estimating a first future resource use for current entities and services in the communications network; and estimating a second future resource use for the entity or service received in the request; determining admission to the communications network of the received request based at least in part on the step of calculating resources; and using a partitionable booking window, if admission is allowed for the received request, for booking the first and second future resource uses based at least in part on the step of calculating resources.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/001283

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W28/16 H04W72/04 H04W28/02
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)
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/105563 A1 (RO JUNG-MIN [KR] ET AL) 10 May 2007 (2007-05-10) paragraph [0023] - paragraph [0026] paragraph [0056] - paragraph [0057] paragraph [0093]	1-12
A	US 2007/002765 A1 (KADABA SRINIVAS R [US] ET AL) 4 January 2007 (2007-01-04) paragraph [0013] - paragraph [0017] paragraph [0035] paragraph [0037] - paragraph [0041] paragraph [0054] - paragraph [0058] paragraph [0093] - paragraph [0095] ----- -/-	1-12



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

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

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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

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No
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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	EP 2 053 804 A2 (NEC CORP [JP]) 29 April 2009 (2009-04-29) paragraph [0011] - paragraph [0016] paragraph [0022] - paragraph [0023] paragraph [0029] paragraph [0037] - paragraph [0038] paragraph [0043] - paragraph [0046] paragraph [0049] - paragraph [0059] paragraph [0069] -----	1-12
A	ETRI: "DRX operation for LTE-Advanced UE", 12 October 2009 (2009-10-12), 3GPP DRAFT; R2-095943 DRX OPERATION FOR LTE-ADVANCED UE, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, XP050390380, the whole document -----	1-12
A	CATT: "Difference between the TDM solution and LTE DRX", 11 January 2011 (2011-01-11), 3GPP DRAFT; R2-110206, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, XP050492931, the whole document -----	1-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2013/001283

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.:

1-12

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: 1-12

Admission control in a communications network

2. claims: 13-16

Selecting a candidate list of services

3. claims: 17-26

Resource booking in a communications network

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2013/001283

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007105563 A1	10-05-2007	KR 20070044233 A US 2007105563 A1	27-04-2007 10-05-2007
US 2007002765 A1	04-01-2007	NONE	
EP 2053804 A2	29-04-2009	CN 101420736 A EP 2053804 A2 JP 2009111498 A KR 20090042744 A US 2009109900 A1	29-04-2009 29-04-2009 21-05-2009 30-04-2009 30-04-2009