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[Continued on next page]

(54) Title: MOBILE APPLICATION TRAFFIC OPTIMIZATION

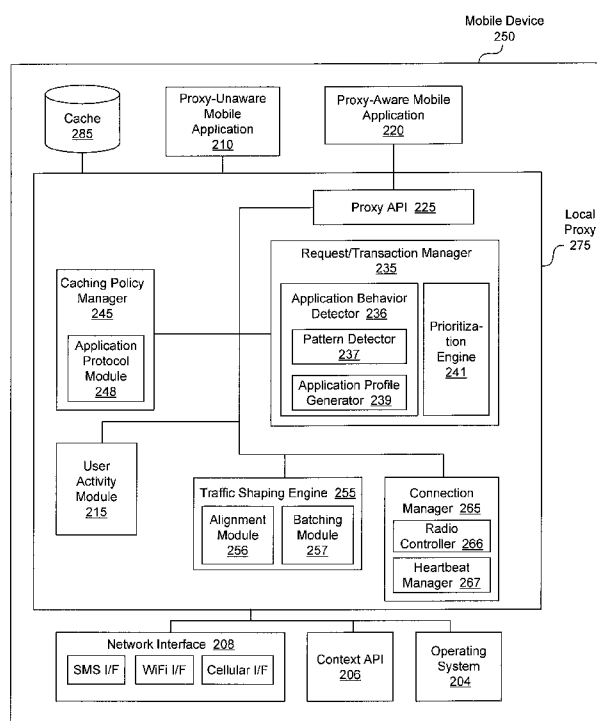


FIG. 2

(57) Abstract: Systems and methods for mobile application traffic optimization are disclosed. In one aspect, embodiments of the present disclosure include a distributed proxy and cache system, including, a local proxy on a mobile device for intercepting a data request made via a mobile device, and a proxy server coupled to the mobile device and a content server to which the data request is directed. In one embodiment, the local proxy can forward the data request to the proxy server for transmission to the content server for a response to the data request. In addition, the proxy server sends the data request to the content server independent of activities on the local proxy and notifies the local proxy when changed or different content on the content server is detected for the data request. One embodiment of the distributed proxy and cache system further includes a cache shared between the local proxy and the proxy server and the component on the local proxy and is queried for a locally stored response to the data request prior to the data request being forwarded on to the proxy server.



SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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9 August 2012

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2011/044974

## A. CLASSIFICATION OF SUBJECT MATTER

INV. H04L29/08

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)

H04L

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	WO 2008/061042 A2 (PELAGO INC [US]; VENGROFF DARREN E [US]) 22 May 2008 (2008-05-22) paragraph [0010] paragraph [0014] paragraph [0017] paragraph [0021] - paragraph [0023] -----	1-4
X	US 2009/248878 A1 (TRAN ANH P [US] ET AL) 1 October 2009 (2009-10-01) paragraph [0001] - paragraph [0020] -----	1-4



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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

01/06/2012

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2011/044974

### 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.:

1-4

#### 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.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008061042 A2	22-05-2008	US 2008177872 A1	24-07-2008
		WO 2008061042 A2	22-05-2008
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US 2009248878 A1	01-10-2009	US 2009248878 A1	01-10-2009
		US 2012089720 A1	12-04-2012
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4

Method in which the number of content requests over the wireless network is reduced.

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2. claims: 5-24, 46-50

Method and system in which the mobile device does not perform polling over the wireless network that can be performed elsewhere in the network.

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3. claims: 25-45

Method and system in which the number of content requests at the content source are optimized.

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