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(54) Title: APPARATUSES AND METHODS FOR DOWNLOADING DATA

(57) Abstract: A method and network apparatus for downloading data from the network apparatus to a mobile device in anticipation of the mobile device entering a black spot zone. The network apparatus determines that the mobile device has entered a predetermined tracking zone related to the black spot zone and gathers information for defining a download zone for the mobile device taking into consideration a time necessary for downloading the data to the mobile device, and a predicted time interval until the mobile device enters the black spot zone. The network apparatus then sends the data to the mobile device when the mobile device enters the download zone.

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Figure 1a

Start

Mobile device inside tracking zone?

Yes: 

S120a

No: 

S125a

Gather information for defining a download zone

Mobile device inside download zone?

Yes: 

S140a

No: 

S150a

Send data to mobius device
Published:

— with international search report (Art. 21(3))
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

Date of publication of the international search report:
19 December 2013
**INTERNATIONAL SEARCH REPORT**

**International application No**
PCT/SE2013/05Q354

**A. CLASSIFICATION OF SUBJECT MATTER**

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<td>H04W6/00</td>
<td>H04W8/24</td>
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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, COMPENDEX, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<tr>
<th>Category*:</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>X</td>
<td>WO 2010/052570 AI (NOKIA CORP [FI]); KONTO LA KALEROV MIKAEL [FI]; HANNU KSI ELA MI SAI MATI AS) 14 May 2010 (20 10-05 - 14) abstract</td>
<td>1:22</td>
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Further documents are listed in the continuation of Box C. [X] See patent family annex.

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**Date of the actual completion of the International search**

2 October 2013

**Date of mailing of the International search report**

15/10/2013

**Name and mailing address of the ISA/**

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Volpato, Andrea
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