

Search query (3): [SP]: claims what is claimed is: 1. a method for sending alert messages, the method comprising: accessing location information of a plurality of user mobile devices in a mobile network from a database accessing a message handling capacity information of each of a plurality of network elements in the mobile network and sending, through the plurality of network elements, an alert message to the plurality of user mobile devices based on the location information, wherein sending the alert message through a network element of the plurality of network elements comprises at least: controlling a sending rate of the alert message through the network element based on a message handling capacity information of the network element and a real-time delivery status information of the alert message that are already sent through the network element. 2. the method of claim 1, further comprising: accessing a network resource capacity information associated with the mobile network, wherein the sending rate of the alert message through the network element is further controlled based on the network resource capacity information. 3. the method of claim 2, wherein the network resource capacity information comprises at least one of an allowable number of paging requests of each location area code and a paging capacity information of each cell site. 4. the method of claim 1, further comprising accessing real-time delivery status information of the alert message sent through the plurality of network elements. 5. the method of claim 4, wherein controlling the sending rate of the alert message through the network element comprises performing, iteratively, at each of a plurality of pre-determined time intervals: accessing a delivery failure rate and a delivery success rate of the alert message sent through the network element, the delivery failure rate and the delivery success rate determined from the real-time delivery status information of the alert message sent through the network element and adjusting the sending rate of the alert message based on at least one of the determined delivery failure rate and the determined delivery success rate, wherein in a first iteration, the sending rate of the alert message through the network element is initialized with a pre-determined message handling capacity of the network element, the pre-determined message handling capacity obtained from the message handling capacity information of the network element. 6. the method of claim 5, wherein the pre-determined message handling capacity is a maximum message handling capacity of the network element. 7. the method of claim 6, wherein adjusting the sending rate comprises: decreasing the sending rate by a first pre-determined value if the delivery failure rate is higher than a first threshold percentage, wherein a maximum decrease in the sending rate is till a minimum threshold sending rate and increasing the sending rate by a second pre-determined value if the delivery success rate is higher than a second threshold percentage, wherein a maximum increase in the sending rate is upto the maximum message handling capacity. 8. the method of claim 1, wherein the database is configured by integrating with one or more location sources in the mobile network and the database is different from a home location register (hlr) and a home subscriber server (hss) of the mobile network. 9. the method of claim 1, wherein accessing location information of a user mobile device of the plurality of user mobile devices further comprises accessing information of network elements of the plurality of network elements that are currently servicing the user mobile device. 10. the method of claim 1, wherein accessing the location information comprises fetching the location information from the database, and wherein the location information of the plurality of user mobile devices is stored in the database. 11. the method of claim 1, wherein the plurality of network elements comprises at least one of a mobile switching center (msc) and a serving gprs support node (sgsn). 12. the method of claim 1, wherein the plurality of network elements comprises at least one of a base station controller (bsc), a radio network controller (rnc), a mobility management entity (mme) and a femtocell gateway. 13. the method of claim 1, wherein the plurality of network elements comprises at least one of a base transceiver station (bts), a femtocell site, a nodeb and an enodeb. 14. a public alert system, comprising: a database configured to store location information of a plurality of user mobile devices in a mobile network and a message handling system communicably coupled with the database for accessing the location information, the message handling system configured to: access a message handling capacity information of each of a plurality of network elements in the mobile network and send, through the plurality of network elements, an alert message to the plurality of user mobile devices based on the location information, wherein the message handling system is configured to send the alert message through a network element of the plurality of network elements by performing at least: controlling a sending rate of the alert message through the network element based on a message handling capacity information of the network element and a real-time delivery status information of the alert message that are already sent through the network element. 15. the public alert system of claim 14, wherein the message handling system is further configured to access a network resource capacity information associated with the mobile network, wherein the sending rate of the alert message through the network element is further controlled based on the network resource capacity information. 16. the public alert system of claim 15, wherein the network resource capacity information comprises at least one of an allowable number of paging requests of each location area code and a paging capacity information of each cell site. 17. the public alert system of claim 14, further comprising a real-time delivery status module for receiving real-time delivery status information of the alert message sent through the plurality of network elements. 18. the public alert system of claim 17, wherein for controlling the sending rate of the alert message through the network element, the message handling system is configured to perform, iteratively, at each of a plurality of pre-determined time intervals: accessing a delivery failure rate and a delivery success rate of the alert message sent through the network element, the delivery failure rate and the delivery success rate determined from the real-time delivery status information of the alert message sent through the network element and adjusting the sending rate of the alert message based on at least one of the determined delivery failure rate and the determined delivery success rate, wherein in a first iteration, the sending rate of the alert message through the network element is initialized with a pre-determined message handling capacity of the network element, the pre-determined message handling capacity obtained from the message handling capacity information of the network element. 19. the public alert system of claim 18, wherein the pre-determined message handling capacity is a maximum message handling capacity of the network element. 20. the public alert system of claim 19, wherein the message handling system is configured to adjust the sending rate by: decreasing the sending rate by a first pre-determined value if the delivery failure rate is higher than a first threshold percentage, wherein a maximum decrease in the sending rate is till a minimum threshold sending rate and increasing the sending rate by a second pre-determined value if the delivery success rate is higher than a second threshold percentage, wherein a maximum increase in the sending rate is upto the maximum message handling capacity. 21. the public alert system of claim 14, wherein the database is configured by integrating with one or more location sources in the mobile network and the database is different from a home location register (hlr) and a home subscriber server (hss) of the mobile network. 22. the public alert system of claim 14, wherein accessing location information of a user mobile device of the plurality of user mobile devices further comprises accessing information of network elements of the plurality of network elements that are currently servicing the user mobile device. 23. the public alert system of claim 14, wherein the plurality of network elements comprises at least one of a mobile switching center (msc) and a serving gprs support node (sgsn). 24. the public alert system of claim 14, wherein the plurality of network elements comprises at least one of a base station controller (bsc), a radio network controller (rnc), a mobility management entity (mme) and a femtocell gateway. 25. the public alert system of claim 14, wherein the plurality of network elements comprises at least one of a base transceiver station (bts), a femtocell site, a nodeb and an enodeb. 26. the public alert system of claim 14, further comprising an alert application for receiving information of occurrence of an alert event in an alert area, wherein the alert message is asso

Results: 4

1) Family number: 58125460 (WO14204378A1)

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Title: ALERT MESSAGE FEEDBACK HANDLING

Abstract: The present disclosure relates to provide network status and/or user status information for enhanced alert message management and alert message related emergency management, for which alert messages are sent to user devices in a specific geographical area of a communication network, the providing input information for enhanced alert message handling managing traffic in a communication network during an emergency situation.

Classifications:

International (IPC 8-9): H04W4/22 H04W4/90 H04W64/00 H04W68/00 (Advanced/Invention)

CPC: H04W64/00 H04W68/00 H04L67/22 H04L67/24 H04W4/06 H04W24/00 H04L12/1895 H04L51/34 H04W4/12 H04W4/029 H04W4/90

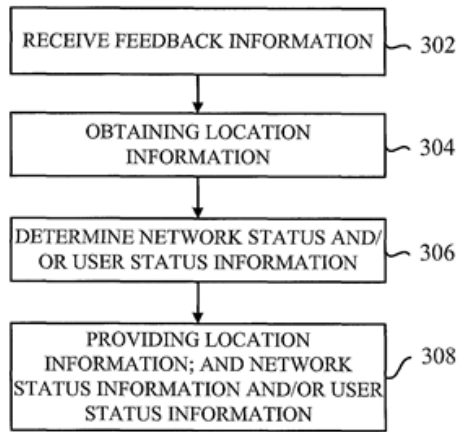


Fig. 3

Family:

Publication number	Publication date	Application number	Application date
WO14204378 A1	20141224	WO2014SE50579	20140513

Priority:

SE20130000441 20130620

Probable Assignee: MOBILE ARTS AB**Assignee(s):** (std): MOBILE ARTS AB**Inventor(s):** (std): ERLANDSON FREDRIK ; KARI LARS**Agent(s):** BRANN AB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 43307610 (US2009137222A)

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Title: LOCATION-BASED ALERT SYSTEM

Abstract: Method and system for sending alert messages to users of mobile phones staying at a specific geographical location without overloading the network, and doing so independently of any user preferences.

Classifications:**International (IPC 8-9):** H04L12/58 H04M11/04 H04W4/02 H04W4/14

H04W4/22 H04W4/90 (Advanced/Invention);

H04L12/58 H04M11/04 H04W4/02 H04W4/12

H04W4/22 (Core/Invention)

CPC: H04W4/021 H04W8/08 H04W64/00 H04W68/00 H04W68/02

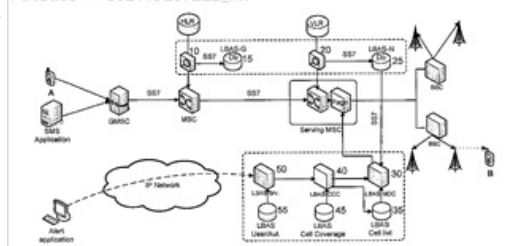
H04W4/90 H04W76/50

European: H04W4/02G H04W68/02 H04W76/00E T04W4/22

T04W76/00E

US: 455/404.1 455/404.100P

PatBase - US2009137222_AA

**Family:**

Publication number	Publication date	Application number	Application date
NO20076122 A	20090528	NO20070006122	20071127
NO327933 B1	20091026	NO20070006122	20071127
US2009137222 AA	20090528	US20080259116	20081027
WO09070029 A1	20090604	WO2008N000365	20081014

Priority:

NO20070006122 20071127

US20070990308P 20071127

US20080259116 20081027

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 64914735 (WO17025904A1)

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Abstract: A method and a system for sending alert messages are provided. The method includes accessing location information of a plurality of user mobile devices in a mobile network from a database. The method further includes accessing a message handling capacity information of each of a plurality of network elements in the mobile network. Furthermore, the method includes sending, through the plurality of network elements, an alert message to the plurality of user mobile devices based on the location information. Moreover, sending the alert message through a network element of the plurality of network elements includes at least controlling a sending rate of the alert message through to the network element based on a message handling capacity information of the network element and a real-time delivery status information of the alert message that are already sent through the network element.

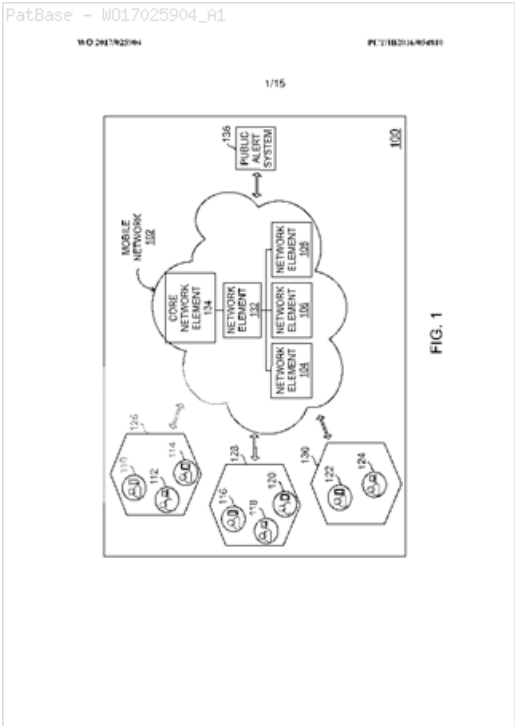
Classifications:

International (IPC 8-9): F16C H04W4/22

H04W4/90 (Advanced/Invention)

CPC: H04W4/02 H04L43/0847 H04L43/0876 H04L43/103 H04L43/16

H04L47/12 H04W28/0226 H04W28/0247 H04W28/08 H04W4/90



Family:

Publication number	Publication date	Application number	Application date
AU2016306086 AA	20180315	AU20160306086	20160810
AU2016306086 BB	20181101	AU20160306086	20160810
CO20180002469 A2	20180521	CO20180002469	20180306
EP3335444 A1	20180620	EP20160760550	20160810
IN02501DE2015 A	20170217	IN2015DE02501	20150813
MX2018001784 A1	20181129	MX20180001784	20160810
PE12322018 A1	20180801	PE20180000234	20160810
WO17025904 A1	20170216	WO20161B54810	20160810

Priority:

IN2015DE02501 20150813 WO20161B54810 20160810

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

4) Family number: 54184806 (WO13095287A1)

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Title: ALERT MESSAGING SYSTEM

Abstract: The present disclosure relates to methods, nodes, a system, computer programs and computer program products for sending an alert message to a plurality of User Equipments, UEs, within circuit and packet switched mobile networks without any changes needed to the mobile network and independently of any subscriber settings and preferences. The method a system obtains (606) UE subscriber data of said plurality of UEs, using passive UE location methods, where said UE subscriber data comprises UE location and UE- related network node information, determines (604) cell-based geographical alert zones and alert zone-related roaming zones based on alert area definition information (600) and radio network data for the communication network (602), and sends (608) the alert message to all UEs within the cell-based geographical alert zones and optionally alert zone-related roaming zones, by parallel in time for all cells in which at least one UE to be alerted is located.

Classifications:

International (IPC 8-9): H04W4/02 H04W4/22 (Advanced/Invention)

CPC: H04W4/021 H04W4/90

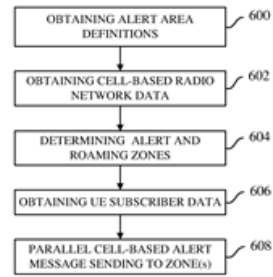


Fig. 6

Family:

Publication number	Publication date	Application number	Application date
W013095287 A1	20130627	WO2012SE51457	20121220

Priority:

SE20110000949 20111221

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW