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FICE); 中国北京市海淀区海淀南路21号中关村知识产权大厦B座2层, Beijing 100080 (CN)。

(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

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(54) Title: CELL COMBINATION METHOD FOR A PLURALITY OF SMALL CELLS, MANAGEMENT METHOD, AND SYSTEM

(54) 发明名称: 一种对多个小基站进行小区合并的方法、管理方法和系统

信令节点 (SN) 接收与其连接的各小基站发送的位置信息, 并根据收到的位置信息按照预设的算法将各小基站分组, 使同一组的小基站共享一个本地小区序列号 101

无线网络控制器 (RNC) 从所述SN中获取各本地小区序列号, 并将各所述本地小区序列号对应一个逻辑小区序列号 102

图 1 /Fig.1

101 A SIGNALING NODE (SN) RECEIVES LOCATION INFORMATION SENT BY EACH SMALL CELL CONNECTED THERETO, AND GROUPING THE SMALL CELLS ACCORDING TO THE RECEIVED LOCATION INFORMATION AND BASED ON A PRESET ALGORITHM, SO THAT SMALL CELLS IN ONE GROUP SHARE ONE LOCAL CELL SEQUENCE NUMBER

102 A RADIO NETWORK CONTROLLER (RNC) ACQUIRES FROM THE SN EACH LOCAL CELL SEQUENCE NUMBER, AND CORRESPONDS EACH LOCAL CELL SEQUENCE NUMBER TO ONE LOGICAL CELL SEQUENCE NUMBER

(57) Abstract: Disclosed is a cell combination method for a plurality of small cells, a management method and system. The combination method comprises: a signaling node (SN) receiving location information sent by each small cell connected thereto, and grouping the small cells according to the received location information and based on a preset algorithm, so that small cells in one group share one local cell sequence number; and a radio network controller (RNC) acquiring from the SN each local cell sequence number, and corresponding each local cell sequence number to one logical cell sequence number. The present invention not only can simplify network deployment and save cost, but also can increase the utilization of the RNC.

(57) 摘要: 本发明公开了一种对多个小基站 (Small Cell) 进行小区合并的方法、管理方法和系统, 其中, 所述合并方法包括: 信令节点 (SN) 接收与其连接的各小基站发送的位置信息, 并根据收到的位置信息按照预设的算法将各小基站分组, 使同一组的小基站共享一个本地小区序列号; 无线网络控制器 (RNC) 从所述 SN 中获取各本地小区序列号, 并将各所述本地小区序列号对应一个逻辑小区序列号。本发明不仅能够简化网络部署, 节约成本, 而且能够提高 RNC 的利用率。

本国际公布:

- 包括国际检索报告(条约第 21 条(3))。
- 在修改权利要求的期限届满之前进行，在收到该修改后将重新公布(细则 48.2(h))。
- 根据申请人的请求，在条约第 21 条(2)(a)所规定的期限届满之前进行。

(88) 国际检索报告公布日期:

2014 年 2 月 13 日

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2013/081976

A. CLASSIFICATION OF SUBJECT MATTER

H04W 16/18 (2009.01) i

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)

IPC: H04W, H04L, H04Q

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)

CNABS, CNTXT, VEN, CNKI: position, merge, place, base station, cell, base, station, group?, RNC, SN, logical, logic

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 101400111 A (DATANG MOBILE COMMUNICATIONS EQUIPMENT CO., LTD.), 01 April 2009 (01.04.2009), description, page 9, paragraph 3 to page 11, paragraph 6	1, 2, 5, 6, 8, 9, 12, 13
A	CN 102340783 A (TELECOM SCIENCE AND TECHNOLOGY INSTITUTE), 01 February 2012 (01.02.2012), the whole document	1-13

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	“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
“E” earlier application or patent but published on or after the international filing date	“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
“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)	“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
“O” document referring to an oral disclosure, use, exhibition or other means	“&” document member of the same patent family
“P” document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 15 November 2013 (15.11.2013)	Date of mailing of the international search report 28 November 2013 (28.11.2013)
Name and mailing address of the ISA/CN: State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No.: (86-10) 62019451	Authorized officer ZHANG, Yaoyao Telephone No.: (86-10) 62411326

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/CN2013/081976

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 101400111 A	01.04.2009	CN 101400111 B	09.03.2011
CN 102340783 A	01.02.2012	None	

A. 主题的分类

H04W 16/18 (2009.01) i

按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

IPC: H04W; H04L; H04Q

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))

CNABS, CNTXT, VEN, CNKI: 位置, 分组, 小区, 合并, 地点, 基站, cell, base, station, group?, RNC, SN, logical, logic

C. 相关文件

类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
X	CN 101400111 A (大唐移动通信设备有限公司) 01.4 月 2009 (01.04.2009) 说明书第 9 页第 3 段—第 11 页第 6 段	1, 2, 5, 6, 8, 9, 12, 13
A	CN 102340783 A (电信科学技术研究院) 01.2 月 2012 (01.02.2012) 全文	1-13

 其余文件在 C 栏的续页中列出。 见同族专利附件。

* 引用文件的具体类型:

“A” 认为不特别相关的表示了现有技术一般状态的文件

“E” 在国际申请日的当天或之后公布的在先申请或专利

“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件 (如具体说明的)

“O” 涉及口头公开、使用、展览或其他方式公开的文件

“P” 公布日先于国际申请日但迟于所要求的优先权日的文件

“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件

“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性

“Y” 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性

“&” 同族专利的文件

国际检索实际完成的日期

15.11 月 2013 (15.11.2013)

国际检索报告邮寄日期

28.11 月 2013 (28.11.2013)

ISA/CN 的名称和邮寄地址:

中华人民共和国国家知识产权局
中国北京市海淀区蓟门桥西土城路 6 号 100088

传真号: (86-10)62019451

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国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2013/081976

检索报告中引用的专利文件	公布日期	同族专利	公布日期
CN 101400111 A	01.04.2009	CN 101400111 B	09.03.2011
CN 102340783 A	01.02.2012	无	