

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局



(43) 国际公布日
2011 年 10 月 6 日 (06.10.2011)

PCT

(10) 国际公布号
WO 2011/120463 A3

- (51) 国际专利分类号:
H04W 28/24 (2009.01) H04W 28/16 (2009.01)
- (21) 国际申请号: PCT/CN2011/073763
- (22) 国际申请日: 2011 年 5 月 6 日 (06.05.2011)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (71) 申请人 (对除美国外的所有指定国): 华为技术有限公司 (HUAWEI TECHNOLOGIES CO., LTD.) [CN/CN]; 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。
- (72) 发明人: 及
- (75) 发明人/申请人 (仅对美国): 欧阳伟龙 (OUYANG, Weilong) [CN/CN]; 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。
- (74) 代理人: 北京同立钧成知识产权代理有限公司 (LEADER PATENT & TRADEMARK FIRM); 中国北京市海淀区西直门北大街 32 号枫蓝国际 A 座 8F-6, Beijing 100082 (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, 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, KM, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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。

- (84) 指定国 (除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), 欧洲 (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)。

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: 2012 年 5 月 10 日

(54) Title: METHOD, SYSTEM AND NETWORK DEVICE FOR QUALITY OF SERVICE (QOS) NEGOTIATION IN CROSS-MEDIUM NETWORKS

(54) 发明名称: 跨媒介网络中的 QoS 协商方法和系统及网络设备

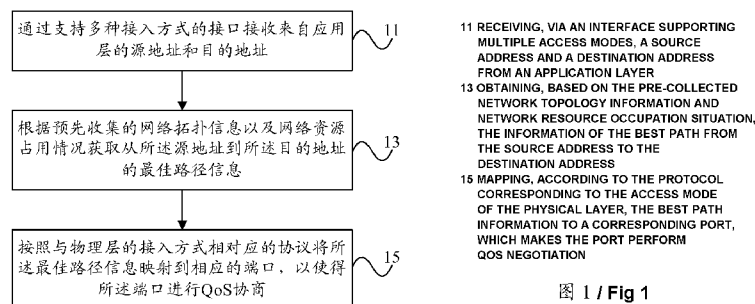


图 1 / Fig 1

(57) Abstract: Provided are a method, system and network device for quality of service (QoS) negotiation in cross-medium networks in the invention. The method includes: receiving, via an interface supporting multiple access modes, a source address and a destination address from an application layer; obtaining, based on the pre-collected network topology information and network resource occupation situation, the information of the best path from the source address to the destination address; mapping, according to the protocol corresponding to the access mode of the physical layer, the best path information to a corresponding port, which makes the port perform QoS negotiation. With the embodiments of the invention, the QoS negotiation speed can be accelerated and the service connection speed can be increased.

[见续页]

WO 2011/120463 A3



(57) 摘要:

本发明提供一种跨媒介网络中的 QoS 协商方法和系统及网络设备。该方法包括通过支持多种接入方式的接口接收来自应用层的源地址和目的地址；根据预先收集的网络拓扑信息以及网络资源占用情况获取从所述源地址到所述目的地址的最佳路径信息；按照与物理层的接入方式相对应的协议将所述最佳路径信息映射到相应的端口，以使得所述端口进行 QoS 协商。本发明实施例可以加快 QoS 协商速度，提高业务接续速度。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2011/073763

A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet

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: H04L; H04Q; 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)

CPRSABS, CNABS, CNTXT, DWPI, VEN, CNKI, IEEE: QoS, quality 1W of 1W service, negotiation, physical, application, service, layer?, different, multiple, network?, medium?, map????, path?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN101119308A(UNIV BEIJING SPACEFLIGHT&AVIATION) 06 Feb. 2008(06.02.2008) see the whole document	1-10
A	CN101827027A(CHINESE ACAD SCI ACOUSTICS INST) 08 Sep. 2010(08.09.2010) see the whole document	1-10
A	WO0135243A1 (MEGAXESS INC) 17 May 2001(17.05.2001) see the whole document	1-10

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search
30 Jan. 2012(30.01.2012)Date of mailing of the international search report
23 Feb. 2012 (23.02.2012)Name and mailing address of the ISA/CN
The State Intellectual Property Office, the P.R.China
6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China
100088
Facsimile No. 86-10-62019451

Authorized officer

JIA, Yu

Telephone No. (86-10)010-62411258

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2011/073763

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN101119308A	06.02.2008	CN101119308B	25.08.2010
CN101827027A	08.09.2010	None	
WO0135243A1	17.05.2001	AU2752201A	06.06.2001
		US2002055990A1	09.05.2002
		US7293094B2	06.11.2007
		US7185070B2	27.02.2007
		US2002091802A1	11.07.2002

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2011/073763

Continuation of the second sheet

A. CLASSIFICATION OF SUBJECT MATTER

H04W 28/24 (2009.01) i

H04W 28/16 (2009.01) i

国际检索报告

国际申请号

PCT/CN2011/073763

A. 主题的分类

参见附加页

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: H04L; H04Q; H04W

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))

CPRSABS, CNABS, CNTXT, DWPI, VEN, CNKI, IEEE: QoS, 服务质量, 协商, 物理, 应用, 业务, 层, 不同, 多, 网络, 媒介, 映射, 路径; quality 1W of 1W service, negotiation, physical, application, service, layer?, different, multiple, network?, medium?, map????, path?

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
A	CN101119308A (北京航空航天大学) 06.2 月 2008 (06.02.2008) 参见全文	1-10
A	CN101827027A (中国科学院声学研究所) 08.9 月 2010 (08.09.2010) 参见全文	1-10
A	WO0135243A1 (MEGAXESS INC) 17.5 月 2001 (17.05.2001) 参见全文	1-10

☐ 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

30.1 月 2012 (30.01.2012)

国际检索报告邮寄日期

23.2 月 2012 (23.02.2012)

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

受权官员

贾煜

电话号码: (86-10) 010-62411258

国际检索报告
关于同族专利的信息

国际申请号

PCT/CN2011/073763

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
CN101119308A	06.02.2008	CN101119308B	25.08.2010
CN101827027A	08.09.2010	无	
WO0135243A1	17.05.2001	AU2752201A	06.06.2001
		US2002055990A1	09.05.2002
		US7293094B2	06.11.2007
		US7185070B2	27.02.2007
		US2002091802A1	11.07.2002

续第 2 页:

A. 主题的分类

H04W 28/24 (2009.01) i

H04W 28/16 (2009.01) i