

(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
2010 年 8 月 19 日 (19.08.2010)

PCT

(10) 国际公布号
WO 2010/091541 A1

- (51) 国际专利分类号:
H04L 12/14 (2006.01)
- (21) 国际申请号: PCT/CN2009/001450
- (22) 国际申请日: 2009 年 12 月 15 日 (15.12.2009)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:
200910078023.3 2009 年 2 月 10 日 (10.02.2009) CN
- (71) 申请人 (对除美国外的所有指定国): 中国科学院声学研究所 (INSTITUTE OF ACOUSTICS, CHINESE ACADEMY OF SCIENCES) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。
- (72) 发明人; 及
(75) 发明人/申请人 (仅对美国): 王劲林 (WANG, Jin-lin) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。 匡振国 (KUANG, Zhenguo) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。 刘学 (LIU, Xue) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。 刘磊 (LIU, Lei) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。 董元元 (DONG, Yuanyuan) [CN/CN]; 中国北京市海淀区北四环西路 21 号, Beijing 100190 (CN)。
- (74) 代理人: 北京法思腾知识产权代理有限公司 (FAST INTELLECTUAL PROPERTY LAW, LLC); 中国北京市海淀区中关村东路 66 号世纪科贸大厦 C 座 1801 室杨小蓉, Beijing 100190 (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,

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(54) Title: ONLINE CHARGING METHOD AND SYSTEM BASED ON USER'S SERVICE QUANTITY

(54) 发明名称: 一种基于用户业务量的在线计费方法及系统

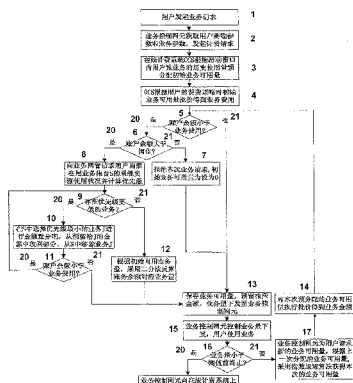


图 3 Fig.3

- 1 the user initiates a service request
2 the service control network element obtains the user terminal parameters and service parameters, and initiates the charging request
3 the online charging system OCS previously distributes the initial service usable quantity according to the user's history usage quantity of the service within the slide window
4 the OCS makes batch price for the initial service usable quantity according to the user's expenses policy and obtains the service expenses
5 the account balance is less than the service expenses?
6 is the account balance more than the threshold?
7 this service request is refused, and the initial service usable quantity is set to be 0
8 the system resource usage status of the service set S being currently used by the user is requested from the service network manager and the priority is computed
9 does the service with lower priority exist?
10 the service J with the least priority is chosen in the S to redistribute the money, a part is taken back from the money previously preserved for the J, and the service J is removed from the S
11 is the account balance less than the service expenses?
12 according to the initial service usable quantity, the service quantity corresponding to the account balance is reversely computed by dichotomy
13 the service usable quantity is saved, the corresponding money is previously preserved, the service quantity is transmitted to the service control network element
14 the batch price is performed for this previously distributed service usable quantity and the service money is obtained
15 the service control network element controls the transmitting of the service quantity, and the user uses the service
16 does the service quantity terminate before it is less than the threshold?
17 the service control network element requests new service usable quantity for the user, and adopts the index retraining algorithm to obtain the service usable quantity of this time according to the service usable quantity distributed last time
18 the service control network element reports the service usage circumstance of this time to the online charging system
19 the online charging system completes the charging processing, releases the rest previously preserved money, and saves the service usage quantity of this time
20 yes
21 no

(57) Abstract: An online charging method and system based on user's service quantity are provided. Being applied to a service operating supporting system, the invention adopts usage time slide window technology, pre-distributes service usable quantity based on history usage quantity of user service, realizes the online charging function, decreases reverse computation times from money to the service usable quantity during the course of the online charging, and improves charging efficiency; the invention enables the distributed initial service quantity to coincide with the usage custom of the user as possible as it can, and the anticipant alternating times between a service control network element and the online charging system during the course of the online charging decline to be constant, so as to decrease intercurrent pressure of the online charging system; the subsequent service usable quantity in this session adopts the index retraining algorithm with threshold for computation, and declines the complication degree of computation; the invention redistributes the previously preserved account balance according to the system resources usage circumstance of each service in the service system, improves the utilization ratio of the idle service resources. The method of the present invention can be directly applied to the present online charging system, and it has higher application value.

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